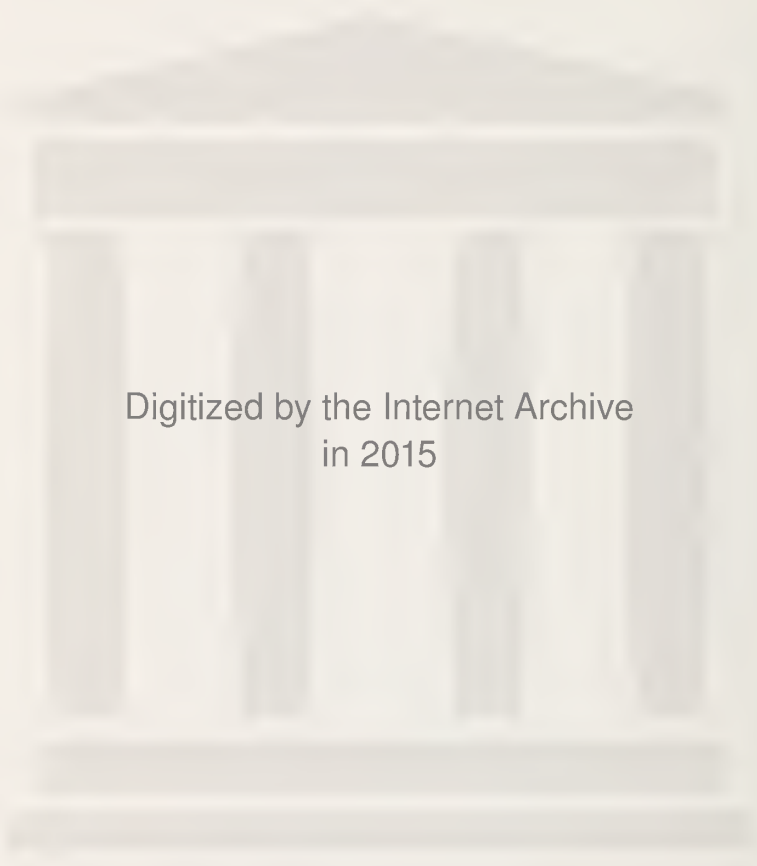


ANNUAL REPORT
of the
DEPARTMENT *of* SURGERY
1958



THE NEW YORK HOSPITAL-CORNELL MEDICAL CENTER

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ANNUAL REPORT
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DEPARTMENT OF SURGERY
The New York Hospital—Cornell Medical Center

1958

by FRANK GLENN, M.D.

S. W. MOORE, M.D.

JOHN M. BEAL, M.D.

To the President of the Board of Governors of the Society of The New York Hospital and the President of the Board of Trustees of Cornell University:

We have the honor to present the annual report of the Department of Surgery for 1958. In a sense it is an audit of our resources and facilities balanced against our activities and results. Your generous provision of the former, complemented by the diligent efforts of all those working within this department, has made possible a high degree of achievement in the objectives of both the surgical department and of the institution as a whole. Opportunities for service in the expanding field of surgery bestow upon us, as an integral part of a teaching medical center hospital, increasing responsibilities. Problems arising out of these are briefly commented upon because their solution is closely linked with what we may do in the future.

Dr. Nathan Chandler Foot died September 4, 1958. Born in New York City, he received his A.B. from Harvard College and his M.D. from the College of Physicians and Surgeons, Columbia University. This was followed by resident training at The New York Hospital and then two years in Germany studying pathology. He was on the staff of the Department of Pathology at Harvard Medical School and then the College of Medicine, University of Cincinnati. When the new New York Hospital was opened in 1932, he came with Dr. George Heuer as Professor of Pathology and Surgery and head of the Laboratory of Surgical Pathology. He was a member

of many societies, becoming President of the American Board of Surgery, Consultant to the Armed Forces Institute of Pathology in Washington, and President of the New York Pathological Society. He was the author of many scientific papers and wrote two textbooks: *Pathology in Surgery* and *Identification of Tumors*. Loved and esteemed by all his associates, students, and house staff because of his charm and wit, he was interested in music, painting, and foreign languages. His most enduring influence as a teacher was exerted upon those members of the surgical house staff who worked in his laboratory during the years between 1932 and 1948. To know him was to love him, and his loss has been most acute.

Dr. Lucy Crawford completed 32 years of continuous service with The New York Hospital on June 30, 1958. At that time she was Surgeon in Charge in the Emergency Pavilion. Her clinical ability combined with a feeling for her fellow man resulted in a high degree of attainment in the art of medicine. Members of the resident staff, past and present, will long remember her example and counsel. Our best wishes, affection, and deep appreciation are extended to her on her retirement.

Dr. Albert J. Paquin, who became a member of the resident staff in the Department of Surgery (Urology) in 1949 and a member of the senior staff in 1952, has accepted a position as Professor of Urology and Chairman of the Department at the University of Virginia. This is, we feel, just and well-earned recognition.

Dr. Frank Redo has continued his research in cardiovascular disease on the Lewis Cass Ledyard Fellowship. He is becoming increasingly active in the clinical management of patients subjected to open heart surgery.

Dr. Bjorn Thorbjarnarson, assisted by a grant from the New York Cancer Committee, has carried on studies in malignancy with particular reference to the biliary tract.

Dr. Edward Goldsmith returned on July 1, 1958, as research fellow in cardiovascular disease, after completing a year of senior residency at the University of Colorado School of Medicine. His special interest rests in the field of surgically improving coronary circulation.

Dr. James W. Smith, upon completion of his residency in Plastic Surgery, was promoted on July 1 to Assistant Attending Surgeon in Plastic Surgery.

Dr. John H. McGovern, upon completion of his residency in Urology, was promoted to Assistant Attending Surgeon.

SENIOR STAFF

Our assistants in the administration of the department have been Dr. Preston A. Wade, Dr. Peter Dincen, Dr. George Holswade, Dr. George Wantz, and Dr. Bjorn Thorbjarnarson. The attending surgeons in charge of the specialty sections have been:

DR. BRONSON S. RAY.....	<i>Neurosurgery</i>
DR. JOHN M. McLEAN.....	<i>Ophthalmology</i>
DR. T. CAMPBELL THOMPSON.....	<i>Orthopedics (Hospital for Special Surgery)</i>
DR. JAMES A. MOORE.....	<i>Otolaryngology</i>
DR. HERBERT A. CONWAY.....	<i>Plastic Surgery</i>
DR. VICTOR F. MARSHALL.....	<i>Urology</i>
DR. JOSEPH F. ARTUSIO, JR.....	<i>Anesthesiology</i>
DR. JOHN M. PEARCE.....	<i>Surgical Pathology</i>
DR. GEORGE F. EGAN.....	<i>Oral Surgery</i>
DR. CRANSTON W. HOLMAN.....	<i>Bellevue Hospital, 2nd Surgical Division</i>

Dr. Cranston Holman has been the director of the Second (Cornell) Surgical Division of Bellevue. He has been assisted by Dr. Joseph T. Kauer, Dr. Ernest Lampe, Dr. Eugene Clifton, Dr. David Speer, and Dr. John H. Eckel.

In addition to the immediate members of the department, we have had assistance in teaching and clinical work from Dr. H. T. Randall of the Memorial Hospital and his immediate associates, Dr. Eugene Clifton, Dr. Hollon Farr, Dr. John Walker, and Dr. Walter Lawrence.

RESIDENT STAFF

The complete list of resident staff appointments in surgery for the year 1958 follows:

GENERAL SURGERY

Resident Surgeons

DONALD L. WEEKS, JR.....	May 1, 1957 to Apr. 30, 1958
DANIEL W. DAVIS, JR.....	Sept. 1, 1957 to Aug. 31, 1958
ROBERT SPIER.....	Jan. 1, 1958 to Dec. 31, 1958
HENRY MANNIX, JR.....	May 1, 1958—
GEORGE JOHNSON, JR.....	Sept. 1, 1958—

First Assistant Resident Surgeons

HENRY MANNIX, JR.....	May 1, 1957 to Apr. 30, 1958
GEORGE JOHNSON, JR.....	Sept. 1, 1957 to Aug. 31, 1958
WILLIAM L. CRAVER.....	Jan. 1, 1958 to Dec. 31, 1958
WALTER B. HOOVER.....	May 1, 1958—
CHARLES W. PEARCE.....	Sept. 1, 1958—

Assistant Resident Surgeons

JOSEPH E. BOGEN.....	July 1, 1957 to June 30, 1958
WALTER B. HOOVER.....	July 1, 1954 to Apr. 30, 1958
ARTHUR J. OKINAKA.....	July 1, 1955 to Dec. 31, 1958
BURTON M. ONOFRIO.....	July 1, 1958 to July 31, 1958
CHARLES W. PEARCE.....	July 1, 1956 to Aug. 31, 1958
JAMES W. PREUSS.....	July 1, 1956 to June 30, 1958
WALTON K. T. SHIM.....	July 1, 1957 to June 30, 1958
C. ELTON CAHOW, JR.....	July 1, 1958—
JULIUS CONN, JR.....	July 1, 1958—
GEORGE H. DIETZ.....	July 1, 1957—
JOSEPH P. DINEEN.....	July 1, 1956—
CHARLES B. DUNAIF.....	July 1, 1957—
ROGER R. ECKER.....	July 1, 1958—
AMES L. FILIPPONE.....	Sept. 1, 1956—
THOMAS M. FULCHER.....	July 1, 1957—
FREDERICK W. FULLER.....	July 1, 1955—
ERNEST GRABLE.....	July 1, 1957—
WILLIAM R. GRAFE, JR.....	July 1, 1956—
PETER M. GUIDA.....	July 1, 1955—
CHESTER Z. HAVERBACK.....	July 1, 1958—
WARREN W. KOONTZ, JR.....	July 1, 1958—
RICHARD W. MARTIN.....	July 1, 1958—
ROBERT E. McCABE, JR.....	Oct. 1, 1957—
CHARLES K. McSHERRY.....	July 1, 1958—
FRANK G. MOODY.....	July 1, 1957—
GEORGE P. READING.....	July 1, 1958—
EDWARD M. RING.....	July 1, 1957—
WAID ROGERS.....	July 1, 1958—
JOHN F. ROSE, JR.....	July 1, 1957—
MARTIN E. ROSE.....	July 1, 1957—
ROBERT H. STACKPOLE.....	July 1, 1957—
JOHN C. WHITSELL, II.....	July 1, 1955—

Interns

July 1, 1957 to June 30, 1958

VITO J. CIMINELLO
 JULIUS CONN, JR.
 J. ANTHONY DEDE
 ROGER R. ECKER
 GEORGE J. HILL, II
 WARREN W. KOONTZ, JR.
 RICHARD W. MARTIN
 CHARLES K. McSHERRY
 JOHN McE. MORAN
 EDWARD C. MUECKE
 BURTON M. ONOFRIO
 GEORGE P. READING
 DANIEL S. RENNER
 WAID ROGERS
 THOMAS M. SCRUGGS
 WHITMAN E. SMITH, JR.

July 1, 1958 to June 30, 1959

EDWARD J. CAREY, JR.....Cornell
 ARMAND F. CORTESE.....Cornell
 ARNOLD G. DIETHELM.....Cornell
 JOHN P. DONOHUE.....Cornell
 LAWRENCE DUBIN.....Yale
 EUGENE M. LANCE.....Cornell
 RALPH J. LEWIS.....Cornell
 GEORGE H. McLEOD.....Cornell
 RICHARD G. MIDDLETON.....Cornell
 DANIEL L. MOORE.....Johns Hopkins
 JAMES M. MORRIS.....Stanford
 ALAN PAVEL.....University of Chicago
 ROBERT E. SHANAHAN.....Michigan
 JOHN F. TULENKO.....Harvard
 DONALD E. WILLARD, JR.....Jefferson
 NORMAN R. ZINNER.....University of Chicago

Neurosurgery

EDWARD P. RYAN, Resident.....	July 1, 1957—
Assistant Resident.....	July 1, 1956 to June 30, 1957
RUSSEL H. PATTERSON, JR., Assistant Resident.....	July 1, 1957—
DAVID A. EATON, Assistant Resident.....	July 1, 1958—

Ophthalmology

MILES A. GALIN, Resident.....	July 1, 1958 to Dec. 31, 1958
Assistant Resident.....	July 1, 1956 to June 30, 1958
HENRY J. KINOSIAN, Assistant Resident.....	Sept. 1, 1956 to Dec. 31, 1958
ROBERT S. PERRY, Assistant Resident.....	July 1, 1957—
RICARDO E. RENGEL, Assistant Resident.....	July 1, 1957—
ANDREW P. FERRY, Assistant Resident.....	July 1, 1958—
GEORGE B. MAGRUDER, Assistant Resident.....	July 1, 1958—

Oral Surgery

RICHARD F. RIEHL, Resident.....	July 1, 1957 to June 30, 1958
Intern.....	July 1, 1956 to June 30, 1957
STANTON B. FATER, Resident.....	July 1, 1958—
Intern.....	July 1, 1957 to June 30, 1958
BURT S. ABRAMSON, Intern.....	July 1, 1957 to June 30, 1958
FRANK J. KARPES, Intern.....	July 1, 1958—
PETER J. MONTEMARANO, Intern.....	July 1, 1958—

Otolaryngology

WILLIAM A. JAMISON, Resident.....	July 1, 1957 to June 30, 1958
Assistant Resident.....	July 1, 1956 to June 30, 1957
JOHN H. PER-LEE, Resident.....	July 1, 1958—
Assistant Resident.....	July 1, 1957 to June 30, 1958
MILTON GREENBERG, Assistant Resident.....	July 1, 1957—
HOWARD W. LOWERY, Assistant Resident.....	Mar. 1, 1958—
SHIGERU YAMASHITA, Assistant Resident.....	July 1, 1958—

Plastic Surgery

JAMES W. SMITH, Resident.....	July 1, 1956 to June 30, 1958
C. HAL CHAPLIN, Resident.....	July 1, 1958—
Assistant Resident.....	Sept. 1, 1957 to June 30, 1958
DICRAN GOULIAN, JR., Assistant Resident.....	July 1, 1958—

Urology

JOHN H. MCGOVERN, Resident.....	July 1, 1957 to June 30, 1958
Assistant Resident.....	July 1, 1954 to Sept. 30, 1956
	May 1, 1957 to June 30, 1957
LESTER D. SHULTIS, Resident.....	July 1, 1958—
Assistant Resident.....	July 1, 1955 to June 30, 1958
NEVZET ARMET DURUMAN, Assistant Resident.....	Jan. 1, 1957 to June 30, 1958
LESTER M. FELTON, Assistant Resident.....	July 1, 1957 to June 30, 1958
THOMAS J. FERRARO, Assistant Resident.....	July 1, 1957—
JOHN G. KEUHNELIAN, Assistant Resident.....	July 1, 1957—
MYRON P. WALZAK, Assistant Resident.....	July 1, 1958—
RAFAEL J. GOSALBEZ, Assistant Resident.....	July 1, 1958—

SERVICES, SECTIONS, ADMISSIONS, OPERATIONS AND DEATHS—1958

Deaths				Autopsies					
Pavilion Service		Admissions	Operations	Oper.	Non-Op.	Total	Yes	Per Cent	No
<i>Pavilion Service</i>									
General Surgery.....	1,950	2,241	53	8	61 ^{3/10} ↓	49 (2 M.E.)*	80.3	12	
Fracture.....	204	162	6	1	7	6 (4 M.E.)	85.7	1 (1 M.E.)	
Neurosurgery.....	291	404	15	1	16	10 (1 M.E.)	62.5	6	
Ophthalmology.....	469	497	1	—	1	1	100.0	—	
Otolaryngology.....	644	502	1	1	2	—	—	2	
Plastic Surgery.....	354	375	1	—	1	1 (1 M.E.)	100.0	—	
Urology.....	632	569	7	6	13	10	76.9	3	
	—	—	—	—	—	—	—	—	
	4,544	4,750	84	17	101	77 (8 M.E.)	76.2	24 (1 M.E.)	
<i>Private Service</i>									
General Surgery.....	2,343	2,293	28	15	43	25 (1 M.E.)	58.1	18 (2 M.E.)	
Fracture.....	290	165	2	1	3 ✓	1	33.3	2 (1 M.E.)	
Neurosurgery.....	346	457	19	2	21	17	80.9	4	
Ophthalmology.....	469	454	—	—	—	—	—	—	
Otolaryngology.....	953	825	—	—	—	—	—	—	
Plastic Surgery.....	380	428	—	—	—	—	—	—	
Urology.....	1,082	823	9	4	13	6	46.2	7	
	—	—	—	—	—	—	—	—	
	5,863	5,445	58	22	80	49 (1 M.E.)	61.3	31 (3 M.E.)	
<i>Semiprivate Teaching Service</i>									
	848	757	20	4	24	17 (1 M.E.)	70.8	7	
	—	—	—	—	—	—	—	—	
Totals.....	11,255	10,952	162	43	205	144 (10 M.E.)	70.2	61 (4 M.E.)	

* 2 Medical Examiner's cases included in the total of 49 autopsies.

GENERAL SURGERY

Patients admitted to the general surgical pavilions in 1958 numbered 1,950 as compared with 1,802 in 1957. Of the 2,241 operations performed, 53 were followed by deaths, a mortality rate of 2.4 per cent. Autopsies were performed in 44, or 83 per cent of the these cases. There were 8 non-operative deaths with autopsies in 5 instances. Patients admitted to the semiprivate teaching service numbered 848 and 757 operations were performed. Twenty postoperative deaths occurred, with 15 autopsies, and 4 nonoperative deaths with 2 autopsies. During the year a total of 2,343 private patients were admitted and 2,293 operations were performed. There were 28 postoperative deaths, an operative mortality of 1.2 per cent. Sixteen autopsies, or 57 per cent, were performed. In addition there were 15 non-operative deaths, with 9 autopsies.

During 1958 particular emphasis has been placed on the prevention of cross-infection in surgical patients. Staphylococcal infections, both in the operating rooms and in patient areas elsewhere in the hospital, have been under special study. The increased hazard of infection from organisms which are resistant to antibiotics has become a nation-wide concern, and the efforts of the staff in the Department of Surgery have been rewarded by a continued low rate of infection in surgical patients. The department has taken the initiative in the hospital in the prevention and control of nosocomial infection. Dr. Peter Dineen has assumed the chief responsibility in this area and has cooperated with members from other departments in studying and attacking infections throughout the hospital.

Cardiovascular Surgery. The program of cardiac surgery has received a major impetus during the past year by the introduction of open heart operations performed with the aid of an artificial heart-lung machine. This has made possible the successful correction of a variety of congenital and acquired cardiac lesions which were previously considered inaccessible and uniformly fatal. Teamwork, always important in the preparation and operative and postoperative management of cardiac patients undergoing surgery, becomes even more significant in the open heart group. The staff members who developed a program of integrated management during the past years have continued to function efficiently in the more complex procedures which require application of the pump-oxygenator. The cardiac surgical team has been led by Dr. Frank Glenn, Dr. George Holswade, and Dr. Frank Redo. They have been ably supported by Dr. Harold Stewart and his associates from the Department of Medicine, Dr. Mary Allen Engle and Dr. Henry Goldberg and their colleagues from the Department of Pediatrics, Dr. Daniel Lukas and his staff from the cardiopulmonary laboratory, Dr. Joseph Artusio and Dr. Benjamin Marbury from the Department of Anesthesiology, Dr.

Israel Steinberg and Dr. Nathaniel Finby from the Department of Radiology and Dr. Curtis Mendelson from the Department of Obstetrics.

Approximately 50 operations have been performed in which a complete cardiac by-pass was effected through the use of the pump-oxygenator. The most satisfactory results have been obtained in correcting congenital heart defects, notably atrial and ventricular septal defects, and valvular pulmonic stenosis. It has also been possible to apply this approach to infundibular pulmonic and congenital mitral stenosis, and to ostium primum defects. Acquired cardiac problems approached by the method of open correction have been calcific aortic stenosis and mitral insufficiency.

Cardiac operations which do not require the pump-oxygenator have been performed with increased safety. Mitral valvulotomy continues to be the most frequently performed of these procedures. Within the past six and a half years more than 400 such operations have been accomplished with an operative mortality that is now less than 5 per cent. Operations for the correction of coarctation of the aorta, patent ductus arteriosus, and tetralogy of Fallot have been associated with a continued low mortality and gratifying results.

The surgical treatment of aneurysms of the aorta and occlusive disease of the major arteries has been a field of major interest for Dr. S. W. Moore and Dr. George Wantz. Recently they have undertaken a review of the results of replacement of the major arteries with homografts, and at the present time they have initiated a series of restorations of arterial continuity with synthetic prostheses. These projects will afford an opportunity to compare the relative efficacy of these two types of arterial replacement. Endarterectomy with and without arterial grafting has also been used in the therapy of arteriosclerotic occlusion of the major arteries.

Cancer: Cancer continues to present a challenge to the diagnostic and therapeutic abilities of surgeons. Surgery still offers the most successful means to eradicate cancer. The staff has continued to study methods of improving diagnosis by clinical review and application of diagnostic aids.

Special investigations are being carried out in the treatment of cancer of the breast, colon, and stomach. Adjuvant cancerocidal agents are utilized in selected cases of cancer of these organs to determine if survival can be lengthened. A study of cancer chemotherapy is being made in incurable patients who cannot be treated by the customary methods of surgery or roentgen therapy. These projects have been conducted in cooperation with the United States Public Health Service and under the supervision of Dr. John Beal, Dr. Bjorn Thorbjarnarson, and Dr. George Cornell. Dr. Peter Dineen has been investigating the frequency with which tumor cells can be demonstrated in the circulating blood stream in patients with cancer, a method of study which will be correlated with the employment of the chemo-

therapeutic agents. Under the supervision of Dr. George Cornell the Tumor Registry has continued to function actively and its facilities have been utilized by an increasing number of the staff. The follow-up information has become more comprehensive and has thus made significant contributions to case finding for study and research.

Trauma and Fracture: Dr. Preston A. Wade and Dr. Robert L. Patterson, with the able assistance of Dr. Paul W. Braunstein, Dr. Paul Skudder, and members of the resident staff, have directed the management and study of injured patients.

The neighboring hospitals have continued to cooperate with the trauma service in referring injured patients for whom they are unable to provide beds. In this way, the volume of patients has been maintained at a satisfactory level.

Under the auspices of Cornell University Medical College, the third annual postgraduate course on trauma was given in June. This course included 51 lecture sessions by members of the faculty of Cornell University Medical College and of the staffs of The New York Hospital and the Hospital for Special Surgery.

The Joint Action Committee of the American College of Surgeons, the National Safety Council, and the American Association for the Surgery of Trauma have authorized a study to be made at The New York Hospital-Cornell Medical Center on the treatment of the patient in the emergency room. This work, supported by a grant to the Department of Public Health, is under the leadership of Dr. James McCarroll of the Department of Preventive Medicine and Public Health. Dr. Paul Skudder joined the hospital staff on July 1, as a member of this research committee, and has been in charge of the emergency room service at The New York Hospital.

A second project being carried out by Drs. McCarroll, Braunstein and Skudder is a study of pedestrian fatalities in New York City. With the medical examiner and the police commissioner, the trauma service group is investigating all pedestrian fatalities and cooperating with the police in determining factors that have to do with the causes of death.

Dr. Braunstein completed a study of circulation of the head of the femur in dogs and presented a second study on the "Fallacy of the Whiplash Injury" at the annual meeting of the American Association for the Surgery of Trauma. Also at this meeting, Dr. Wade gave a paper on "Supracondylar Fractures in the Aged," and Drs. Wade and Campbell presented a paper on "Intertrochanteric Fractures of the Neck of the Femur."

The weekly fracture conferences on Tuesday evenings continue to be popular and are well-attended by staff members from neighboring hospitals, who participate in the presentation of cases.

NEUROSURGERY

DR. BRONSON S. RAY, Attending Surgeon in Charge

Dr. Ray has been ably assisted during the year by Dr. Herbert Parsons, Associate Attending Surgeon (Neurosurgery) and Dr. Howard S. Dunbar, Assistant Attending Surgeon (Neurosurgery). Dr. Edward P. Ryan has been chief resident and Dr. Russel H. Patterson, Jr., first assistant resident in 1958. Dr. A. Dale Console, who had held an appointment as Assistant Attending Surgeon (Neurosurgery) since 1948, resigned regretfully from this appointment in the spring of 1958 because of ill health.

Admissions to the neurosurgical service in 1958 totalled 637, compared to 633 in 1957. There were 861 operative procedures, followed by 34 deaths—an operative mortality of 3.9 per cent. Permission was granted for 24 autopsies, or 70.5 per cent.

The study of surgical ablation of the hypophysis, which was started as an investigative work in 1953 in conjunction with the endocrine department of the Memorial Center for Cancer and Allied Diseases, has continued to expand in scope. At present hypophysectomy has been performed for advanced carcinoma of the breast in 316 patients; advanced carcinoma of the prostate in 14; diabetes mellitus in 16; acromegaly in 11; malignant exophthalmos in 5; Cushing's syndrome in 4; and miscellaneous sites of advanced cancer in 21. An evaluation of the first 109 cases of mammary cancer in February of 1958, based on a minimum follow-up period of 17 months, showed that 54 patients had obtained an objective remission; 44 of these demonstrated regression of disease; and 10 were classified as having had an arrest of disease. Eight deaths occurred in this series, 5 surgical and 3 non-surgical. Although the series for carcinoma of the prostate is relatively small, the effects of hypophysectomy on this disease have been comparable to those on carcinoma of the breast. One patient with metastatic carcinoma of the thyroid has obtained a remission. Results have been especially promising in all patients who have had hypophysectomy for acromegaly. Neurosurgeons and general surgeons from many parts of the world have continued to show an interest in observing Dr. Ray's operative procedure for removing the hypophysis. Hypophysectomies for acromegaly, malignant exophthalmos, and Cushing's syndrome are being carried out in cooperation with the endocrinology section of the Department of Medicine.

The division of neurosurgery, jointly with the Cornell Division of Neurology at Bellevue, has been given a second subsidy by the United States Department of Health, Education and Welfare to participate in a nation-wide study of aneurysms and subarachnoid hemorrhage. Investigation of destructive lesions in the globus pallidus has continued at the neurosurgical division at Bellevue. Alcohol injections appear to hold particular promise in treat-

ing selected cases of Parkinson's disease, and the early results warrant further study. Two other studies started within the year are: (1) the determination of the value of early arteriography in cerebrovascular accidents; and (2) the value of anticoagulant therapy in cerebral thrombosis. Throughout the year, Dr. Ray and Dr. Harold G. Wolff of the Department of Medicine have continued their semi-monthly rounds at Bellevue. Dr. Parsons and Dr. Dunbar have continued to be responsible for actively directing the neurosurgical service there.

Jointly with Dr. David Becker of the Department of Medicine, the section started investigative work in the relation of thyroid disease and function to the pituitary.

A survey of thoracolumbar sympathectomies performed for vascular hypertension has begun. This series includes more than 600 cases, with a follow-up of from 5 to 18 years. Expenditures for this survey are being covered by the residuum of a grant from the John and Mary Markle Foundation.

OPHTHALMOLOGY

DR. JOHN M. McLEAN, Attending Surgeon in Charge

Dr. McLean has had as his immediate associates Dr. Edward A. Dunlap and Dr. Stuart S. Snyder. Dr. Edward D. Norton resigned July 1, 1958, to accept the professorship of ophthalmology at the University of Miami, Florida. Dr. Victor Curtin completed his residency in June and accepted a United States Public Health Service traineeship in eye pathology in Boston. Dr. Walter Peretz completed his residency and was appointed Surgeon to Outpatients. He is conducting special studies in uveitis. Dr. Austin Fink resigned to become Director of the Eye Service at Long Island College Hospital. Dr. Donald Shafer joined the staff as Assistant Attending Surgeon and will continue the development of his technique in vitreous implantation in detached retina cases. The attending staff remains at a total of 12. The resident staff is composed of six members. Dr. Miles Galin and Dr. Henry Kinosian were appointed senior residents. Dr. Robert Perry, Dr. Ricardo Rengel, Dr. Andrew Ferry, and Dr. Brock Magruder are assistant residents. Dr. Futaba Aizawa joined the staff as a research assistant.

The year has been one of increased activity. The pavilion service exceeded last year's record with 469 admissions and 497 operations with one death. There were 469 admissions to the private service with 454 operations without mortality.

ORTHOPEDICS

DR. T. CAMPBELL THOMPSON, Attending Surgeon in Charge

The Hospital for Special Surgery has increased its bed capacity to 194. In addition to the regular and special orthopedic services, patients with

arthritis and related neuromuscular disorders have been cared for both on an out-patient and in-patient basis. A special clinic for metabolic bone diseases has been organized under the direction of Dr. James Nicholas, and a research project in the field has been initiated. Students from the Cornell University-New York Hospital School of Nursing and from several other institutions continue to receive their training in the care of orthopedic patients at this hospital, and the School for Practical Nurses graduated 28 students during 1958. On the regular orthopedic training program, four doctors have graduated each year after completing a minimum of two years of general surgery followed by three years of orthopedic training at the Hospital for Special Surgery, The New York Hospital, and the Bronx Veterans Hospital. This orthopedic training program is being lengthened to three and a half years so that additional training in physical medicine, X-ray, basic sciences, and research can be included.

Construction of the Caspary Research Building was begun this year with the anticipation that it will be completed in September, 1959. It will house the Philip D. Wilson Research Foundation and will constitute a signal opportunity for the development of research in orthopedic surgery.

OTOLARYNGOLOGY

DR. JAMES A. MOORE, Attending Surgeon in Charge

Dr. Moore has been assisted by a senior staff of 14 and a resident staff of four. Dr. Roger Thibert completed his resident training on June 30. Dr. Per-Lee became resident surgeon on July 1 and Dr. Milton Greenberg was promoted to second year assistant resident. Dr. Shigeru Yamashita and Dr. Howard Lowery are assistant resident surgeons.

During the year the number of admissions and operations was approximately the same as in 1957. There were 1,327 operative procedures performed. It was noted that the number of simple mastoidectomies performed in 1958 nearly doubled the experience for 1957. There were 88 operations of mobilization of the stapes which also represented an increase over the previous year. Tonsillectomies and/or adenoidectomies were performed in 694 patients. Other operative procedures included 38 Caldwell-Luc or radical sinusotomies, 8 simple sinusotomies, 6 laryngectomies, and 3 laryngofissures.

The case load of the Speech and Hearing Center has increased. The Center continues to cooperate with the State of New York Department of Health, Bureau of Medical Rehabilitation, and Bureau for Handicapped Children, and approximately 43 children with hearing impairment are being followed in the Speech and Hearing Center in conjunction with the State health program.

PLASTIC SURGERY

DR. HERBERT CONWAY, Attending Surgeon in Charge

Dr. Conway has been ably assisted during the past year by Dr. James Smith and Dr. Martin Griswold. Dr. Smith completed his residency training in June and joined the staff as Assistant Attending Surgeon (Plastic) on July 1. Dr. Griswold has continued to participate in the out-patient department program. In July Dr. Hal Chaplin succeeded to the position of resident surgeon in plastic surgery, and Drs. Goulian and Corso joined the staff as assistant resident surgeons. The research activities have been ably furthered by the endeavors of Ronald Gillette, Ph.D. and Miss Angelica Findley in the research laboratory.

The clinical activities of the division have further expanded during 1958. There were 354 admissions with 375 operations on the pavilion service in comparison to 298 admissions and 354 operations during 1957.

The out-patient clinic visits increased approximately 9 per cent over 1957. The service has maintained its status as a cleft palate center approved by the New York City Health Department.

The division of plastic surgery holds weekly case report meetings, monthly journal club symposia, and monthly cleft palate conferences. Attendance by both clinical and research staffs enhances the value of these sessions.

Research has pursued both clinical and experimental lines. Dr. Corso has constructed methyl merthacalate preparations of the vascular supply of the soft tissues of the head in different age groups. Dr. Smith has continued his studies on the nerve supply and neuromuscular function of labial tissue transplants and has employed electromyography techniques. A major study of scar tissue has been undertaken and includes the investigation of tissue culture techniques in the laboratory. Clinical observations are made with the use of cortisone compounds and roentgentherapy.

Interest in speech training continues. Clinical investigation and out-patient care in speech therapy and orthodontics has been made possible by the generous support of the Astor Foundation.

ANESTHESIOLOGY

DR. JOSEPH F. ARTUSIO, JR., Anesthesiologist in Chief

The Department of Anesthesiology in close cooperation with the Department of Surgery has grown and expanded its activities in both clinical and investigative fields in the past year.

Dr. Artusio has been assisted by 8 attending anesthesiologists during 1958. Dr. Marbury supervised anesthesia in the Department of Obstetrics

and Gynecology. In addition to supervising the clinical anesthesia in the main hospital, Dr. Valentino Mazzia had as one of his major responsibilities the resident training program. Dr. Marjorie Topkins directed the administrative management of the nurse anesthetists.

Upon completion of his residency in anesthesiology, Dr. Alan Van Poznak joined the attending staff on February 1, 1958 as Assistant Attending Anesthesiologist.

Dr. Andre Smessaert resigned from the attending staff as of June 30, 1958, and joined the Department of Anesthesia at St. Vincent's Hospital in New York City.

During the year 1958, the resident staff has numbered 10 physicians. Dr. Gunther Schlag left on June 30 to return to Austria to practice anesthesiology. Dr. Ursula Miettinen returned to Finland at this time.

The research activity of this department has continued to center around the study of light levels of surgical anesthesia. Interest in fluorohydrocarbons has continued and the fluoronated ethers are being investigated in the search for an ideal anesthetic agent. A study has been made of the dose-response relationship of d-tubocurarine during the analgesic stage with ether. This will complement the study of d-tubocurarine during conventional levels of surgical anesthesia.

A recently established nerve block clinic and IBM statistical systems functioned well throughout the year. Their sphere of activity is growing steadily.

The summary of principal anesthetics and techniques is listed as follows:

Cyclopropane.....	3,740
Ether—closed circle.....	1,765
Ether—open.....	1,212
Nitrous oxide.....	1,804
Intravenous pentothal.....	143
Rectal pentothal.....	30
Ethylene.....	4
Trilene (trichlorethylene).....	9
Vinethene.....	21
Avertin.....	1
Regional block for surgery.....	41
Spinal.....	132
Caudal.....	1
Refrigeration.....	2
Saddle block.....	1
Locals.....	2,747
Blocks O. R. (therapeutic and diagnostic).....	11
Locals clinic.....	452
Blocks clinic.....	28
Adjuvants for electroshock therapy.....	137

12,281

UROLOGY

DR. VICTOR F. MARSHALL, Attending Surgeon in Charge

Dr. Marshall has had Dr. Albert Paquin as his immediate associate during 1958. There has been a senior staff of 6 and a resident staff of 7.

Dr. John McGovern completed his residency training on June 30 and joined the staff as Assistant Attending Surgeon on July 1. Dr. Lester Shultis became resident surgeon, Dr. Thomas Ferraro was appointed first assistant resident, and Drs. Raphael Gosalbez and Myron Walzak became assistant residents.

During the past year Dr. Francis A. Beneventi was appointed Professor of Urology and Chief of the Urological Service of the New York Polyclinic Hospital and Medical School. Dr. Alfonso Davalos, on leave of absence, has been appointed director of the Instituto de Clinicas y Urologia in Caracas, Venezuela, and is devoting his entire time to its organization.

The major investigative interest of the service has been shifted to urologic problems in children. Dr. McGovern has been engaged on a full-time basis in a tabulation of all the pediatric urological charts and, in particular, in reviewing our cases of the megacystic syndrome. An intensive study of vesicoureteral reflux is under way by Drs. McGovern, Paquin, and Marshall. Dr. Paquin has developed a distinctly improved technique for reimplantation of the ureters into the bladder. Dr. Paquin and others have been engaged in measuring bladders and trigones in children in an effort to determine the limits of normality. A large number of cystograms made at standardized pressure in both normal and abnormal situations have been studied. Dr. Marshall has developed an improved method of the closure of exstrophy and epispadias. The interest and cooperation of the members of the Department of Pediatrics has been greatly appreciated. During the past few years the number of pediatric admissions because of urologic disorders has steadily increased.

Dr. Thomas Ferraro has completed a review of the literature and of the experience of The New York Hospital in operative procedures to correct post-prostatectomy incontinence. Dr. John Keuhnelian began a review of all our cases of testicular neoplasms, and Dr. G. A. Humphreys a similar study of renal cell neoplasms with emphasis on the 10 to 15 year results. Dr. Paquin's studies on postoperative metabolism are continuing. In cooperation with Drs. Evans and Poker of the Department of Radiology, a study of kidney function by means of the radiorenogram is nearing completion. With Dr. Horwith of the metabolism unit of the Department of Medicine, Dr. Marshall has made a study of three unique cases of an unusual disorder of oxalate metabolism known as oxalosis.

SURGICAL PATHOLOGY

DR. JOHN M. PEARCE, Surgical Pathologist

Dr. Pearce has conducted the activities of the laboratory of surgical pathology with the valuable assistance of Dr. John Ellis and Dr. Stephen Vogel of the Department of Pathology in 1958.

Training has been provided for members of the resident staff of the Departments of Surgery and Pathology, who have served in rotation. This year members of the resident staff of the Department of Radiology have received experience in the surgical pathology laboratory. As in previous years, assistant residents from Urology and Otolaryngology have also been assigned to the laboratory.

During 1958, 9,434 surgical specimens were processed by the laboratory in comparison to 9,052 specimens in 1957. Malignant neoplasms represented approximately 20 per cent of the total number.

Experimental activities in surgical pathology have emphasized viral infections and neoplasia. Work on the effect of antihyaluronidase substances on the reaction of the host to viral infections has continued. The investigations on experimental viral myocarditis with particular reference to the production of chronic congestive heart failure have received support through the New York Heart Association for a second year.

The studies on the differentiation of carcinoma of the prostate from benign adenomatous hyperplasia by histochemical analysis of the secretions of the glands have made excellent progress. Dr. Pearce has been assisted in this endeavor by Dr. William Grafe and Dr. Arthur Okinaka.

Animal as well as human pathology has been studied in the laboratory. Through the association with the Ellin Prince Speyer Hospital, nearly 1,000 tumors from dogs and cats have been examined and classified.

OPERATING ROOMS

MISS DOROTHY ELLISON, R.N., Head of Operating Room Nursing Service

Miss Ellison has had the following immediate staff:

MRS. LUCY HICKEY, Supervisor of the Private Operating Room

MISS LENA SAFFIOTI, Supervisor of the General Operating Room

MISS GLADYS JONES, Supervisor of the Recovery Room

MISS ANNA ONDOVCHICK, Supervisor of the Teaching Program

The operating rooms have continued to carry a heavy work load. During 1958, operations and treatments totaled 17,409 in comparison to 16,886 for 1957. This was accomplished in the face of a grave shortage of nursing staff during the earlier months of the year which necessitated curtailment of the operating day. The cooperative efforts of the nursing and surgical

staffs enabled the operating rooms to function so that the facilities were utilized to capacity. The introduction of open cardiac surgery added a significant staffing program which has been well handled by the whole-hearted and enthusiastic participation of the nursing staff.

Operating Room Committee

Members: DR. JOHN M. BEAL, Chairman. DR. JOSEPH ARTUSIO, DR. PETER DINEEN, DR. ALBERT PAQUIN, DR. WILLIAM SWEENEY, MISS DOROTHY ELLISON, MRS. ELIZABETH HOSFORD, MR. THOMAS MCFARLAN, MR. WILLIAM WALTON.

During 1958, this committee has been particularly vigilant in the maintenance of standards of efficiency and cleanliness in the operating rooms. The addition of Dr. Peter Dineen as a member has been especially helpful in this regard. Frequent inspections have been carried out in both the general and private operating rooms. The techniques which are employed have been reviewed and the policies have been restated. Sterility checks have been extended throughout the area. Detailed reports of all wound infections have been prepared under Dr. Dineen's supervision, and sources of contamination have been searched for in each case. As a result of the persistence in this field, the incidence of infection has been kept at a consistently low figure and has been decreased over the preceding twelve month period. New methods have been introduced, including the use of thicker face masks and antiseptic solutions for application to the floors at the time of cleaning.

LABORATORIES FOR SURGICAL RESEARCH

In the laboratories for surgical research, under the supervision of Dr. John Beal, a wide variety of projects have been prosecuted. Many of these have been of a basic nature, while others have had direct application to clinical problems. A series of weekly seminars designed to provide information in surgical physiology and metabolism for the resident surgical staff has been introduced. Dr. Bjorn Thorbjarnarson has participated in the laboratory activities as a fellow of the New York Cancer Committee. Dr. Frank Redo has continued as Ledyard fellow supplemented by a grant from the Polacheck Foundation. Dr. Edward Goldsmith joined the research group in cardiovascular surgery in July.

Surgical Metabolism: The activities of the surgical metabolic research team have been diversified. The interest in changes in body composition has continued. Emphasis has been placed on the determination of body compartments in geriatric patients subjected to major operative procedures, particularly those who have had neoplastic diseases. Studies have also been made in a number of malnourished individuals on the surgical services. The use of radioactive sulfate has been found useful in the estimation of extracellular body fluid and has permitted a reasonable calculation of the amount

of intracellular fluid. These investigations are being correlated with changes in body fat in surgical patients through a series of observations based upon balance studies and isotope dilution techniques. Dr. Helena Gilder has been responsible for the biochemical section of the laboratory and has participated in the metabolic studies with Dr. John Beal and Dr. George Cornell.

Dr. Gilder has also initiated a group of experimental studies on fluid and electrolyte exchange. These deal with the distribution and exchange of sodium and potassium between the cell and its environment, and with the factors that are responsible for electrolyte movement within the body.

The metabolic section has rendered valuable assistance in the management of clinical problems involving fluid and electrolyte disturbances. Mrs. Ames Filippone, metabolic dietitian, has aided in the study and correction of nutritional problems. The availability of special formula feedings which can be adjusted to patient needs has been most helpful.

Studies in intestinal absorption have been undertaken to determine the effect of various disease processes as well as operations upon gastrointestinal function. The results of these studies have been applied directly to the clinical management of a number of patients, and have caused improvement in their status.

Members of the resident staff who have participated in the metabolic studies include Dr. Frank Moody, Dr. Arthur Okinaka, Dr. Joseph Dineen, and Dr. William Fuller.

The work of the metabolic section of the laboratory has again received the generous support of the Astor Foundation and assistance from the Hyde Foundation.

Cardiovascular Research: During the past year, laboratory experience with the pump-oxygenator has been applied to open heart surgery on patients. Improvements in techniques, particularly in the pumping mechanism, are still being sought in the laboratory. Efforts are being made to reduce turbulence and hemolysis, problems which are sometimes associated with the use of extra-corporeal circulation.

The laboratory actively supports the function of the pump-oxygenator in the operating room. Determinations of oxygen content, hematocrit, plasma hemoglobin, $p\text{CO}_2$, and oxygen saturation are made during open heart surgery. These activities are under the direction of Dr. Frank Glenn and Dr. George Holswade.

Studies of basic cardiac physiology are continuing under the supervision of Dr. Frank Redo. Perfusion of the isolated heart has been undertaken to elucidate the differences in reversible and irreversible cardiac arrest. The effects of anoxia and cardioplegic drugs are subject to assay by this method.

The problem of coronary artery insufficiency has received added impetus during the past year. Dr. Redo has started an investigation of the feasibility

of vascularization of the myocardium by a systemic artery. Dr. Edward Goldsmith has initiated an experimental program of coronary artery visualization in cooperation with Dr. Finby of the Department of Radiology. A series of coronary arteriograms have been made without and with the addition of cardioplegia drugs, in an effort to establish a reproducible, safe, and satisfactory method of visualization of the cardiac arterial blood supply.

Dr. George Wantz and Dr. Charles Pearce have been studying experimental arteriosclerosis in arterial grafts. The relation of this formidable problem to both plastic prostheses and homografts is under investigation. Dr. Wantz directed the activities of the Blood Vessel Bank of the New York Heart Association until July 1, at which time this service was discontinued by the Association.

Gastrointestinal Research: Basic studies in peptic ulceration have occupied a major role in the field of surgical research during the past twelve months. Dr. Beal, in collaboration with Dr. Kirby Martin of the Department of Medicine, has conducted experiments with a preparation that has been shown to cause experimental gastric and duodenal ulceration without increased production of gastric secretion as measured by Heidenhain pouches. Dr. Fuller, Dr. Joseph Dineen, Dr. Okinaka, and Dr. Moody have taken active part in these investigations.

The application of skin grafts to the gastric wall has been studied with further success. The influence of species difference has been significant. The major problems seem to be related to loss of the graft by regeneration of surrounding mucosa in some experiments and by motility of the gastric wall in others.

Dr. William Barnes and Dr. Frank Redo have developed an experimental method to prevent reflux esophagitis by implantation of the esophagus into the antrum of the stomach by a seromuscular tunnel in the gastric wall. This technique seems to afford definite valve-like action which appears to prevent erosion of the esophageal mucosa by the gastric juice. These investigators recently reported a prosthesis for the formation of a permanent gastrostomy which prevented leakage of gastric juice and consequent erosion of the skin. Studies are now in progress to evaluate a removable prosthesis for temporary gastrostomy.

Dr. Barnes and Dr. Redo are also seeking to identify an inhibitory factor in the dialysate of gastric juice. The presence of such a factor was indicated in earlier studies that were conducted in the etiology of esophagitis.

Liver and Biliary Tract: Dr. Bjorn Thorbjarnarson is currently evaluating percutaneous cholangiography as a possible diagnostic aid in the differential diagnosis of jaundice. He is also conducting physiological studies of the extrahepatic biliary tract. Investigation of the secretion by and absorption from the gallbladder have been initiated. Determination of total bile flow

and the composition of bile have been undertaken as well as studies of the secretory pressure of the liver. In another series of experiments, Dr. Thorbjarnarson, with assistance by Dr. Beal, has undertaken an investigation of the problem of liver transplantation in experimental preparations.

Dr. Wantz and Dr. Beal, in association with Dr. Mary Anne Payne of the Department of Medicine, have set up a method for the determination of fatty acid and have begun a study of fatty acid levels during the administration of intravenous fat emulsions. Studies for possible improvement in intravenous fat preparation continue. The investigators in this laboratory have also conducted a large series of transaminase determinations in shock, operation, and with anabolic hormones. Experiments are in progress to elucidate the source of enzymes under these circumstances.

Surgical Bacteriology: The activities of the surgical bacteriology laboratory have increased greatly during the past year. In addition to conducting basic investigations, Dr. Peter Dineen and his assistants have given support to a variety of clinical problems. A study of the nature and the classification of organisms in surgical wound infections has been made. When staphylococci have been found, phage typing has been included. In some instances, cultures taken in the operating room have led to reorganization of techniques in this vital area. Studies have been carried out to determine the efficacy of antibacterial substances in face masks, in cleaning solutions, and in other factors within the operating rooms.

Basic research has emphasized the problems of staphylococcic infections. Dr. Dineen is attempting to determine whether or not it may be possible to produce penicillinase *in vivo*, and, if so, how this might be counteracted. The relation of antibiotic dosage to bacterial population is also a subject of study. This is being combined with an investigation of the time-dose relationship, particularly in the first 24 hours after the initiation of antibiotic therapy.

Plastic Surgery Research: Homotransplantation of skin in both humans and experimental animals has been pursued in the laboratory by the preparation of skin transplants by tissue culture technique. The accumulated evidence indicates that the failure of such transplants is due to immunologic reaction. Basic research in immunology has thus far been confined to variation of culture media as tissues are prepared for grafting.

Homotransplants of thyroid and parathyroid glands by vascular anastomoses and also after tissue culture preparation have been the subject of intensified clinical and laboratory research.

Cellular pathology of immature scar, hypertrophic scar, mature scar, and keloid has been studied elaborately. All specimens of scar tissue removed at operation have been blindly grown in the tissue culture laboratory by Dr. Gillette and his assistants. An important observation has been that true

keloid tissue has shown the growth of a characteristic, large fibroblast. It appears that true keloids can be identified positively by this technique.

Neurosurgical Research: A study of the lipid mobilization of growth hormone in hypophysectomized juvenile diabetics has been undertaken. The purpose of the study is to determine the cause of acidosis and ketosis in this group of problem patients. Experimental pancreatectomy is performed in animals and they are allowed to develop a state of acidosis which is corrected by electrolyte replacement and insulin administration. Hypophysectomy is then performed and insulin withdrawal is carried out. This permits the evaluation of the effects of various pituitary extracts. The neurosurgical team has been aided in these experiments by the endocrine department of Memorial Hospital.

Miscellaneous: A study of wound healing has been completed by Dr. Wantz and Dr. Charles Pearce. This project was a histochemical study of factors and mechanisms in wound healing and included a study of the effects of drugs, particularly steroids.

Dr. Paul Braunstein and Dr. John Draper have begun experiments with the use of bladder mucosa grafts to bridge defects in long bones. Bladder mucosa when transplanted to tissues of the body has been known to result in the production of osteoid tissue. This observation has led to the present series of investigations which are designed to determine if application of bladder mucosa to the skeleton will cause bone formation in this site. The investigators are attempting to find what tissue product or property causes the formation of bone when bladder mucosa is transplanted.

ORAL SURGERY

DR. GEORGE F. EGAN, Attending Oral Surgeon in Charge

The work in Oral Surgery under the guidance of Dr. George Egan and Dr. Stanley Behrman, both in the hospital and clinic, has been most active. With the aid of grants to the Oral Surgery Research Fund, they have completed and published findings in the use of oxygenating agents in the treatment of stomatitis and are now making a double-blind clinical study of antibiotic medication in postoperative extraction rounds.

The teaching program has been extended to the second year medical students and the second year student nurses in order more closely to identify the work with the entire department. A system of classifying the various types of dental and oral surgical procedures has been devised in accordance with *Standard Nomenclature of Diseases and Operations*. In the future, these procedures will be included in the annual report.

A new scientific exhibit, including two continuously running motion pictures, was presented at the meeting of the American Dental Association.

OUTPATIENT DEPARTMENT

DR. S. W. MOORE, Attending Surgeon in Charge

In the Surgical Diagnostic Clinic a screening program has been set up to detect carcinoma of the cervix, particularly carcinoma in situ. Those who have a positive test will be referred to the Department of Obstetrics and Gynecology, where we will be able to evaluate the usefulness of the procedure.

The special Sunday Follow-up Clinic, which was inaugurated one year ago by the Fracture Service, has proved to be very successful and has added to the value of the library of 5 by 7 transparency reproductions of all X-rays. Improvements in the X-ray and photographic departments have helped to speed up the taking of X-rays on return patients.

In Ophthalmology special attention has been paid to the measurement of fluid flow in glaucoma by tonography, with resultant refinement of operative methods and greater accuracy in diagnosis. Expansion of this type of study is planned in the coming year, for it promises to yield more basic information about the mechanism in this leading cause of adult blindness. The basic studies and electric characteristics of ocular tissue have been continued and are now nearing conclusion with the accumulation of information with which to improve the design of electro-surgical methods.

Otolaryngology, in cooperation with the State of New York Department of Health, Bureau of Medical Rehabilitation, and Bureau of Handicapped Children, is following some 35 hard of hearing children in conjunction with the State Conservation of Health Program. These children receive complete audiological work-ups. Interdepartmental consultations are available and speech therapy is carried out on this group.

During the past year in the Urology Clinic, radiorenograms with radioactive diatrast have been extensively investigated in conjunction with the Department of Radiology. The apparatus for this investigation has been in the Outpatient Department, and about 200 such examinations have been made. The review of this material is currently underway.

In Plastic Surgery electromyographic studies are being made on cases in which muscular tissue has been transplanted from the lower to the upper lip, or vice versa, by the technique of the Abbe-Estlander lip switch operation. In addition, a clinical investigation is being conducted on the control of keloids. Dr. Ronald Gillette has developed a technique for growing keloids, and by combining the clinical and laboratory facilities, it is now possible to predict more accurately the type of result that the patient may expect following treatment. Although still in an investigative stage, results thus far appear very promising.

The Nerve Block Clinic which was added last year has shown steady

growth. The work done includes pudendal, intercostal, cervical plexus, and stellate blocks.

Emergency Clinic: All have been delighted with the announcement of the construction of the Dr. Connie Guion Building and pleased with the new plans for the Emergency Pavilion. This work has now been started and should greatly improve care of all patients in this area. Dr. Paul Skudder has joined the Department of Surgery in an effort to reorganize the Emergency Pavilion setup. He has entered into the task with energy, enthusiasm, and skill. In addition to his work in the Emergency Pavilion, he will be working in conjunction with the Committee on Trauma of the American College of Surgeons and the National Safety Council together with the American Association for the Surgery of Trauma. With the plans completed and construction actually started, we hope that the Emergency Pavilion will serve as a model for the future.

The catastrophe plan is being worked out to care for 100 seriously injured individuals being brought to the hospital at any time, day or night, weekday or Sunday, with or without warning.

Surgical Follow-up Clinic: The Surgical Follow-up Clinic is functioning better than it has since the war. At present there is a stable staff, whose members are completely interested in their work and have brought the material up to date. We have been able to contact numerous patients to aid various studies being carried out. There are 8,098 patients currently being followed in this section. During the year, 371 cases were closed, including deaths, and 858 new cases were added. This shows an increase of 635 patients followed.

The Fracture Follow-up, which has been added, is working to the satisfaction of all concerned. There were 295 cases brought forward from 1957. At the close of 1958 there were 487 cases, almost twice the number at the start of the year.

SPECIAL GRANTS AND DONATIONS FOR SURGICAL RESEARCH

U. S. Public Health Service:	
General Surgery.....	\$ 51,071.39
Ophthalmology.....	12,960.00
Plastic Surgery.....	15,000.00
Department of the Army—Surgical Bacteriology.....	46,285.81
New York Heart Association—Cardiovascular Research.....	28,409.50
New York Cancer Committee—General Surgery.....	9,000.00
Vincent Astor Foundation:	
General Surgery.....	40,000.00
Plastic Surgery.....	7,000.00
Anonymous—Gastric Physiology.....	10,000.00
Mr. and Mrs. Leonard F. McCollum:	
Cardiovascular Research.....	7,100.00
Neurosurgery.....	7,100.00
Lillian Margolyes League—Ophthalmology.....	8,000.00
William S. Lasdon—Urology.....	6,000.00

Estate of John LaPorte Given:

Biliary Tract.....	5,000.00
Trauma.....	5,000.00
Mrs. George Vigouroux—Cardiovascular Research.....	5,000.00
Mrs. Frances G. Simmons—Plastic Surgery.....	5,000.00
Mary H. Starr Trust for Dr. William Malcolm Fund—Gastric Physiology.....	5,000.00
Mrs. Florence E. Pye—Neurosurgery.....	5,000.00
National Council to Combat Blindness—Ophthalmology.....	3,675.00
Bristol Laboratories, Inc. for Antimicrobial Research.....	3,400.00
The John Polachek Foundation for Medical Research—Cardiovascular Research.....	3,300.00
Mrs. Francis M. Weld—Surgical Metabolism.....	3,093.81
James B. Brady Foundation—Urology.....	3,000.00
Booth-Ferris Foundation—Gastric Physiology.....	2,500.00
Abbott Laboratories—Anesthesiology.....	2,500.00
Hoffmann-La Roche, Inc. for Lasdon Foundation—Urology.....	2,500.00
Marie Heye Clemens Fund, Inc.—Orthopedic Surgery.....	2,500.00
Edward H. Little—Cardiovascular Research.....	2,500.00
Lewis Cass Ledyard Fund—General Surgery.....	2,000.00
Merck & Co., Inc.—Plastic Surgery.....	2,000.00
Mr. and Mrs. Cyrus McCormick—Otolaryngology.....	2,000.00
Graham B. Blaine—General Surgery.....	2,000.00
Alexander M. Bing—Gastric Physiology.....	1,500.00
Archibald John Edge—Urology.....	1,500.00
E. R. Squibb & Sons for Lasdon Foundation—Urology.....	1,500.00
Henry S. Sturgis—Biliary Tract.....	1,000.00
Tristan Antell for the Major Fund—Ophthalmology.....	1,000.00
General Tire & Rubber Co.—Plastic Surgery.....	1,000.00
Estate of Beatrice Frankenfelder—Plastic Surgery.....	1,000.00
Hoffmann-La Roche, Inc.—Otolaryngology.....	1,000.00
I. Penn—General Surgery.....	1,000.00
Florencio Cavito—Urology.....	1,000.00
Fund for Eye Research for James Foundation—Ophthalmology.....	800.00
Dr. Joseph T. Kauer—General Surgery.....	722.00
John E. McAuliffe—Surgical Research.....	500.00
Novocol Chemical Manufacturing Co.—Oral Surgery.....	500.00
Mr. and Mrs. Joseph W. Cone—Biliary Tract.....	500.00
Avco Manufacturing Co.—Plastic Surgery.....	500.00
Mrs. Jessie W. Donahue—Plastic Surgery.....	500.00
Foster Milburn Co.—Plastic Surgery.....	500.00
Merrill Lynch, Pierce, Fenner & Smith—Neurosurgery.....	500.00
E. U. Smilie—Cardiac Research.....	500.00
Dr. Martin E. Lerner—Cardiac Research.....	500.00
Dr. R. C. Buckley—Cardiac Research.....	500.00
John F. Rollins—General Surgery.....	500.00
Cedric A. Major—General Surgery.....	500.00
Louis Hartman:	
General Surgery.....	250.00
Cardiovascular Surgery.....	250.00
Miscellaneous:	
General Surgery.....	3,959.52
Otolaryngology.....	2,754.00
Cardiac Research.....	880.00
Plastic Surgery.....	625.00
Neurosurgery.....	530.00
Orthopedics.....	250.00
Trauma.....	235.00
Urology.....	230.00
Total.....	<u>\$343,881.03</u>

GENERAL COMMENTS

Medicine in general and surgery in particular are undergoing rapid changes. Recent decades have seen great additions to the total factual knowledge of both. Some of the more frequent clinical problems of the surgery of 30 years ago, such as osteomyelitis and pneumococcal empyema, have almost disappeared because of the advances in chemotherapy. Cardiovascular surgery, a recent development, has brought forth new problems associated with technically complicated procedures and the perplexities of altered physiological responses. In training surgeons today, it is increasingly important that in addition to the factual knowledge that enables them to meet the current clinical problems at the bedside and in the operating room, they be taught to view with discrimination the new and replace the old as quickly as the merit of the new is established.

As a surgical department in a teaching medical center hospital, the greater our attainment in this endeavour, the more successful we will be in our other objectives of research and patient care. Since 1932 the residency training program in surgery at The New York Hospital has been outstanding. Briefly, it provides opportunities for the medical school graduate to participate in the care of the surgical patient and gradually to assume increased responsibility, delegated by his seniors, over a period of five to six years as he learns and demonstrates his ability. Surgical operations are a part of surgical care. Surgical training is ineffective without independent operating responsibility and the repeated exercise of making decisions that are determined by a multiplicity of variable factors rather than rule of thumb.

In the past, this training experience was supervised by a senior staff member and involved ward or pavilion patients who paid no fee for the operation and, in most instances, nothing or a mere token for other hospital services. Over the last decade, an increasing proportion of our population has had insurance that provides substantial if not total cost of the hospital care and a varying allowance for the fee for surgical operations and professional services. In this same period a combination of dollar inflation and increasing costs has rendered the endowment of voluntary medical center hospitals less effectual in meeting the deficit that accrues in conducting a training program such as ours. Two years ago an attempt was first made to collect from insurance carriers allowances for surgical operations performed by those in training. This money was turned over to the University in its entirety to augment the meager stipends paid to the resident and intern staff. In the beginning we were successful in this attempt, but during the past year we have been rebuffed, not because the work done has not been of the highest order and so recognized by the patient and the insurance companies, but because the medical profession contends that this is an unfair practice

and deprives those in the private practice of surgery of a source of income. Thus, a situation exists in our community of Manhattan, whereby an insurance company will refuse to pay an allowance provided for a surgical operation to a resident surgeon, licensed to practice in New York State, who has had six or more years in continuous training with a wide array of supervision and consultation amid modern and up-to-date facilities. At the same time, it will readily pay a physician in private practice licensed in New York State who may have had no surgical training and may be grossly incompetent.

The unfairness of this current situation is evident. Its continuation not only works a great financial hardship on training programs, but also diverts patients away from the teaching services of medical centers. The superior patient care that the medical center hospital provides must therefore be publicly proclaimed if a system of training that has played such an important role in the medical care and health of our people is to be maintained.

Surely, those who are responsible for training, not only in this medical center but in others throughout the country, should have the understanding and cooperation of the medical profession in the solution of this problem. Indeed, the patients, both now and in the future, will be benefited by the preservation and extension of the residency training method of developing surgeons.

FRANK GLENN, M.D.

S. W. MOORE, M.D.

JOHN M. BEAL, M.D.

PUBLICATIONS—1958

ARTUSIO, JOSEPH F., JR.

- Consultations with anesthesiologists. Practitioners' Conference, New York Hospital-Cornell Medical Center. N. Y. Medicine 15: 76, 1958.
- The choice of an anesthetic. Chapter 9, p. 189, in *Drugs of Choice*, edited by Walter Modell. Mosby, 1958.
- with F. Glenn et al. Coarctation of aorta complicated by bacterial endocarditis and an aneurysm of the sinus of valsalva. *Circulation* 17: 432, 1958.
- with A. Van Poznak. Series of fluorinated hydrocarbons. *Fed. Proc.* 17: No. 1, #1359, 1958.
- with V. D. B. Mazzia. Physiological problems in anesthesia during surgery of the gastrointestinal tract. *Surg. Cl. N. A.* April, 1958: 321.
- with A. Van Poznak. The concept of intermediate potency. *Far East J. Anesth.* 2: 27, 1958.
- with C. M. Ebersole. Ether analgesia: inspired concentrations, flammability and levels in arterial blood. *Anesthesiology* 19: 607, 1958.

BARNES, WILLIAM A.

- with E. Young, R.N. Hemipelvectomy with particular reference to nursing care. *Am. J. Nursing* 58: 361, 1958.
- with S. F. Redo. Effects of the secretions of the stomach, duodenum, jejunum and colon on the esophagus of the dog. *Surg. Gynec. & Obst.* 106: 337, 1958.
- with M. H. Sleisenger. Physiological considerations in the surgical management of disorders of the esophagus. *Surg. Cl. N. A.* April, 1958: 331.
- with J. H. Eckel and D. S. Speer. Tumors of the chest wall, mediastinum and lung. Revision of Chapter 5, Vol. V, *Lewis' Practice of Surgery*. Prior, Hagerstown, Md., 1958.
- with S. F. Redo. Effects of perfusion of gastric juice, bile, pepsin and hydrochloric acid on the canine esophagus. *Ann. Surg.* In press.

BEAL, JOHN M.

- Restoration of gastrointestinal continuity after total gastrectomy. *Harlem Hosp. Bull.* 11: 23, 1958.
- The surgical treatment of marginal ulcer. *Am. Surgeon.* In press.
- with K. A. Martin. Nervous and hormonal influences in peptic ulcer. *Surg. Cl. N. A.* April, 1958: 385.
- with G. N. Cornell et al. Changes in body compartments following operation. *Surgery* 44: 125, 1958.
- with M. A. Payne et al. Blood ammonium levels after infusions of protein hydrolysates. *Surg. Forum* 8: 43, 1958.
- with H. Gilder et al. Alterations in lean tissue and body fat associated with anabolic hormone administration. *Surg. Forum* 8: 58, 1958.
- with W. L. Craver and G. Johnson. Alterations in serum glutamic-oxalacetic transaminase activity following operations. *Surg. Forum* 8: 77, 1958.
- with C. W. Holman. Congenital atresia of the esophagus. Pages 152-157 in *Atlas of Technics in Surgery*, edited by John L. Madden. Appleton, 1958.

- with B. Thorbjarnarson and J. M. Pearce. Sarcoma of the stomach. *Am. J. Surg.* In press.
- with J. P. Dineen and F. W. Fuller. Application of autogenous skin grafts to the gastric wall. *Surgery.* In press.

BEHRMAN, STANLEY J.

- Review of Oral Surgery, by Kurt Thoma. *J. Dent. Med.* 13: April, 1958.
- with S. B. Fater and D. L. Grodberg. An evaluation of oxygenating agents in the treatment of gingival inflammation. *J. Dent. Med.* 13: 195, 1958.
- with S. B. Fater and D. L. Grodberg. Über die Wirkung verschiedener Sauerstoffdonatoren bei der Behandlung von Zahnfleisch-Entzündungen. *DDZ—Das Deutsche Zahnärzteblatt*: 23, 1958.

BRAUNSTEIN, PAUL W.

- with G. H. McLeod. Vascular changes noted by femoral arteriography following operative destruction of the capsular and periosteal hip vessels in dogs. *Am. J. Surg.* In press.
- with J. O. Moore. The fallacy of the term "whiplash injury." *Am. J. Surg.* In press.
- with P. A. Wade. Operative treatment of fractures of the ankle. *Ann. Surg.* In press.
- with P. A. Wade. Preoperative and postoperative care. Chapter in *Traumatic Lesions in the Aged*, edited by Edgar M. Bick. Blakiston, McGraw-Hill. In press.

CLIFFTON, EUGENE E.

- The use of plasmin in the treatment of intravascular thromboses. *J. Am. Geriatrics Soc.* 6: 118, 1958.
- Studies on plasmin: factors in lysis of thrombi. *Minnesota Med.* 41: 187, 1958.
- Physiological mechanisms of fibrinolysis. *Acta. haemat.* 20: 76, 1958.
- Experimental studies with enzymes in the treatment of thrombosis and embolism. Pages 146-157 of *Cerebral Vascular Disease* (Tr. of 2nd Conf. held under auspices of Am. Heart Assn., Princeton, N. J., 1957). Grune & Stratton, 1958.
- with U. K. Henschke and H. H. Selby. Treatment of cancer of the lung by interstitial implantation. *Cancer* 11: 9, 1958.
- with A. H. Freiman. The effect of fibrinogen concentration on susceptibility of clots in *in vitro* clot lysis with plasmin. *Thromb. Diath. haem.* 2: 269, 1958.
- with P. Rueggsegger et al. Abstract: Plasmin lysis of experimental coronary thrombi. *Bull. New York Acad. Med.* 34: 760, 1958.
- with P. Rueggsegger et al. The lysis of coronary thrombi in experiments by plasmin (fibrinolysin). Communication delivered at 3rd World Congress of Cardiology. St. Catherine Press Ltd., Bruges, Belgium, 1958.

CONWAY, HERBERT

- The marsupial flap for reconstruction of the lower face after radical excision of malignancy. *Brit. J. Plast. Surg.* 10: 321, 1958.

- Muscle plastic operations for facial paralysis. *Ann. Surg.* 147: 541, 1958.
- Comment on Drs. Jordan and Sterling's papers on parathyroid transplantation. *Transplantation Bull.* 5: 65, 1958.
- Effect of supplemental vitamin therapy on limitation of incidence of hare lip and cleft palate in humans. *Plast. & Reconstruct. Surg.* In press.
- Management of burns; wounds of extremities, cross-leg flaps and other reconstructive procedures on the soft tissues; injuries of soft tissues and bones of the face. Chapters in *Surgery of Trauma*, edited by Preston A. Wade. Grune & Stratton. In press.
- with J. W. Smith. Breast plastic surgery: reduction mammoplasty, mastopexy, augmentation mammoplasty, and mammary construction. Analysis of 245 cases. *Plast. & Reconstruct. Surg.* 21: 8, 1958.
- with B. H. Griffith, J. E. Shannon and A. Findley. Transplantation of the embryonic heart in the mouse: observation of pulsatile activity as a criterion of the survival time of homografted tissue. *Plast. & Reconstruct. Surg.* 21: 357, 1958.
- with B. H. Griffith. Carcinolytic effect of local triethylenethiophosphoramidate (rhio-TEPA) on malignant melanoma. *Am. J. Surg.* 95: 994, 1958.
- with B. H. Griffith, J. E. Shannon and A. Findley. Survival of the transplanted fetal heart in the mouse, as determined by pulsatile activity. *Transplantation Bull.* 5: 121, 1958.
- with B. H. Griffith, J. E. Shannon and A. Findley. Pulsatile activity in total transplantation of fetal mouse hearts. *Ann. New York Acad. Sc.* 73: 542, 1958.
- with B. H. Griffith, J. E. Shannon and A. Findley. Pulsatile activity in total transplantation of embryonic mouse hearts as an index of survival of homotransplants. *Surg. Forum* 8: 596, 1958.
- with F. W. Fuller. Cystic hygroma. *Surg. Gynec. & Obst.* In press.
- with W. F. Nickel and J. W. Smith. Homotransplantation of thyroid and parathyroid glands by vascular anastomoses. *Plast. & Reconstruct. Surg.* In press.

CORNELL, CARLETON M.

- with R. Clarke. Vicarious calcification involving the gallbladder. *Ann. Surg.* In press.

CORNELL, GEORGE N.

- with H. Gilder et al. Dilution studies in dogs with experimental ascites. *Metabolism* 7: 201, 1958.
- with H. Gilder, A. Filippone, F. W. Fuller and J. M. Beal. Changes in body compartments following operation. *Surgery* 44: 125, 1958.
- with H. Gilder et al. Alterations in lean tissue and body fat associated with anabolic hormone administration. *Surg. Forum* 8: 58, 1958.

CRAVER, WILLIAM L.

- with F. Glenn. Massive hemorrhage from peptic ulcer: a cause of myocardial infarction in the aged. *J. Am. Geriatrics Soc.* 5: 969, 1957. (Volume and page number were not available when 1957 report went to press.)

- with F. Glenn. Peptic ulceration in childhood. *Arch. Surg.* 77: 833, 1958.
- with G. Johnson and J. M. Beal. Alterations in serum glutamic-oxalacetic transaminase activity following operations. *Surg. Forum* 8: 77, 1958.
- with H. Gilder et al. Alterations in lean tissue and body fat associated with anabolic hormone administration. *Surg. Forum* 8: 58, 1958.

DINEEN, JOSEPH P.

- with F. W. Fuller and J. M. Beal. Application of autogenous skin grafts to the gastric wall. *Surgery*. In press.

DINEEN, PETER

- Antimicrobial agents. Pages 27-31 of Chapter 1 in 2nd edition of *The Specialties in General Practice*, edited by Cecil and Conn. Saunders, 1957. (This reference was not available when 1957 report went to press.)
- with C. W. Pearce. A ten year study on wound infections. *Surg. Gynec. & Obst.* 106: 453, 1958.

DRAPER, JOHN W., JR.

- Trauma. Chapter in *Surgery of Trauma*, edited by Preston A. Wade. Grune & Stratton. In press.
- with L. Biel and W. Samellas. The management of rectal injuries during perineal prostatectomy. *J. Urol.* 80: 65, 1958.
- with L. Biel and W. Samellas. The usefulness of neomycin in retrograde pyelography. *New York J. Med.* In press.

ECKEL, JOHN H.

- Segmental resection of the small intestine and (1) "open" end-to-end anastomosis; (2) "aseptic" end-to-end anastomosis. Pages 286-295 in *Atlas of Technics in Surgery*, edited by John L. Madden. Appleton, 1958.
- with W. A. Barnes and D. S. Speer. Tumors of the chest wall, mediastinum and lung. Revision of Chapter 5, Vol. V, *Lewis' Practice of Surgery*. Prior, Hagerstown, Md., 1958.

FATER, STANTON B.

- with S. J. Behrman and D. L. Grodberg. An evaluation of oxygenating agents in the treatment of gingival inflammation. *J. Dent. Med.* 13: 195, 1958.
- with S. J. Behrman and D. L. Grodberg. Über die Wirkung verschiedener Sauerstoffdonatoren bei der Behandlung von Zahnfleisch-Entzündungen. *DDZ—Das Deutsche Zahnärzteblatt*: 23, 1958.

FILIPPONE, AMES L.

- with G. N. Cornell et al. Changes in body compartments following operation. *Surgery* 44: 125, 1958.

FULLER, FREDERICK W.

- with G. N. Cornell et al. Changes in body compartments following operation. *Surgery* 44: 125, 1958.

- with S. W. Moore. Multiple complications of peptic ulcer. *Am. J. Surg.* In press.
- with J. Dineen and J. M. Beal. Application of autogenous skin grafts to the gastric wall. *Surgery.* In press.
- with H. Conway. Cystic hygroma. *Surg. Gynec. & Obst.* In press.

GALIN, MILES A.

- Unilateral adrenal hemorrhage during ACTH therapy. *New England J. Med.* 258: 945, 1958.
- with R. Berger. Atopy and keratoconus. *Am. J. Ophth.* 45: 904, 1958.

GILDER, HELENA

- with G. N. Cornell, E. A. Free and G. Johnson. Dilution studies in dogs with experimental ascites. *Metabolism* 7: 201, 1958.
- with G. N. Cornell et al. Changes in body compartments following operation. *Surgery* 44: 125, 1958.
- with G. N. Cornell, G. Johnson, W. L. Craver and J. M. Beal. Alterations in lean tissue and body fat associated with anabolic hormone administration. *Surg. Forum* 8: 58, 1958.

GLENN, FRANK

- Secondary operations and the biliary tract: editorial. *Ann. Surg.* 147: 127, 1958.
- Foreword to symposium on surgical physiology of the gastrointestinal tract. *Surg. Cl. N. A.* April, 1958: 319.
- The physiological basis for the surgical treatment of nonmalignant disease of the biliary tract. *Surg. Cl. N. A.* April, 1958: 471.
- Annual report of the department of surgery for 1957. *NYH-CUMC*, 1958.
- Acute and chronic cholecystitis: a classification of biliary tract disease. *Bull. New York Acad. Med.* 34: 496, 1958.
- Cholecystectomy; common duct exploration. Pages 412-425 in *Atlas of Technics in Surgery*, edited by John L. Madden. Appleton, 1958.
- Current problems in surgery of the biliary tract. *Am. J. Surg.* In press.
- The surgical treatment of hyperparathyroidism. The Clagett Lecture, University of Colorado, 1958. In press.
- Surgery of the gallbladder. Chapter in *Abdominal Surgery*, edited by Arthur W. Allen. Hoeber. In press.
- with W. L. Craver. Massive hemorrhage from peptic ulcer: a cause of myocardial infarction in the aged. *J. Am. Geriatrics Soc.* 5: 969, 1957. (Volume and page number were not available when 1957 report went to press.)
- with M. A. Engle et al. Present problems pertaining to patency of the ductus arteriosus. I. Persistence of growth retardation after successful surgery. *Pediatrics* 21: 70, 1958.
- with L. W. Eichna et al. Surgical management of cardiovascular disease: transcription of a panel meeting. *Bull. New York Acad. Med.* 34: 184, 1958.
- with G. Johnson and H. A. Azar. Infarction and multiple abscesses of the liver following biliary tract surgery. *Ann. Surg.* 147: 414, 1958.

- with H. J. Stewart, M. A. Engle, D. S. Lukas, J. F. Artusio, I. S. Steinberg and G. R. Holswade. Coarctation of aorta complicated by bacterial endocarditis and an aneurysm of the sinus of valsalva. *Circulation* 17: 432, 1958.
- with M. A. Engle et al. Regression after open valvotomy of infundibular stenosis accompanying severe pulmonic stenosis. *Circulation* 17: 862, 1958.
- with S. F. Redo. Mitral stenosis and gallstones. *Ann. Surg.* 147: 817, 1958. (Also in *Tr. South. S. A.* 69: 268, 1958.)
- with R. Karl and M. Horwith. The surgical treatment of Cushing's syndrome. *Ann. Surg.* 148: 365, 1958.
- with W. L. Craver. Peptic ulceration in childhood. *Arch. Surg.* 77: 833, 1958.
- with H. J. Stewart. Mitral valvulotomy: a monograph. Thomas. In press.
- with B. Thorbjarnarson. Five Papers: Present status and recent advances in surgery of the (1) esophagus; (2) stomach; (3) spleen; (4) duodenum; (5) pancreas. *New York J. Med.* In press.

GORDON, DAN M.

- Hand fundus camera. *Tr. Am. Acad. Ophth.* 62: 134, 1958.
- Antimicrobial therapy in ophthalmology. *Survey Ophth.* 3: 107, 1958.
- The present status of cortico-steroid therapy in ophthalmology. *Ophthalmologia Ibero Americana* 20: 56, 1958
- Ethoxzolamide. *Am. J. Ophth.* 46: 41, 1958.
- Methyl prednisolone in ophthalmology. *Metabolism* 7: 569, 1958.
- 21 prednisolone phosphate. *Am. J. Ophth.* 46: 736, 1958.
- Hormonal steroid therapy in ophthalmology. *Goz Clinic, Turkey*, 1958.
- Experiences with cortico-steroid therapy. *New York J. Med.* In press.
- Two new preparations for the eye. *Am. J. Ophth.* In press.
- Ocular decongestants. *Am. J. Ophth.* In press.
- Therapeutic habits in ophth. *Arch. Ophth.* In press.
- Common ocular problems. *Postgrad. Med.* In press.
- Cortico-steroid therapy in ophthalmology. *North Carolina M. J.* In press.
- with G. E. Burke. Dicumarol in retinitis pigmentosa. *Am. J. Ophth.* 45: 666, 1958.

HAVERBACK, CHESTER Z.

- with L. M. Cramer and R. R. Smith. Hypertonic dehydration complicating high protein nasogastric tube feeding. *M. Ann. District of Columbia* 27: 331, 1958.

HOLMAN, CRANSTON W.

- Carcinoma of the lung. Page 82 in *Current Therapy—1958*. Saunders, 1958.
- with I. Steinberg. The role of angiocardiology in the surgical treatment of massive pericardial effusions. *Surg. Gynec. & Obst.* 107: 639, 1958.
- with J. M. Beal. Congenital atresia of the esophagus. Pages 152–157 in *Atlas of Technics in Surgery*, edited by John L. Madden. Appleton, 1958.

HOLSWADE, GEORGE R.

- with M. A. Engle et al. Present problems pertaining to patency of the ductus arteriosus. I. Persistence of growth retardation after successful surgery. *Pediatrics* 21: 70, 1958.
- with F. Glenn et al. Coarctation of aorta complicated by bacterial endocarditis and an aneurysm of the sinus of valsalva. *Circulation* 17: 432, 1958.
- with M. A. Engle. A collapsible tub for immersion cooling on the operating table. *Surg. Gynec. & Obst.* 106: 502, 1958.
- with M. A. Engle et al. Regression after open valvotomy of infundibular stenosis accompanying severe valvular pulmonic stenosis. *Circulation* 17: 862, 1958.
- with S. W. Moore and H. Mannix. Acute cholecystitis, etiology, pathology and complications. *Tr. South. S. A.* 69: 247, 1958.

JOHNSON, GEORGE, JR.

- with H. A. Azar and F. Glenn. Infarction and multiple abscesses of the liver following biliary tract surgery. *Ann. Surg.* 147: 414, 1958.
- with H. Gilder et al. Dilution studies in dogs with experimental ascites. *Metabolism* 7: 201, 1958.
- with M. A. Payne et al. Blood ammonium levels after infusions of protein hydrolysates. *Surg. Forum* 8: 43, 1958.
- with H. Gilder et al. Alterations in lean tissue and body fat associated with anabolic hormone administration. *Surg. Forum* 8: 58, 1958.
- with W. L. Craver and J. M. Beal. Alterations in serum glutamic-oxalacetic transaminase activity following operations. *Surg. Forum* 8: 77, 1958.

KARL, RICHARD C.

- with F. Glenn and M. Horwith. The surgical treatment of Cushing's syndrome. *Ann. Surg.* 148: 365, 1958.
- with N. Kretchmer, W. A. Dickinson and H. McNamara. Primary aldosteronism in a nine year old child. *Pediatrics*. In press.

MAISEL, BERNARD

- The role of pneumoperitoneum in the nonsurgical treatment of esophageal hiatal hernia. *Am. Rev. Tuberc.* 78: 623, 1958.
- with I. Steinberg and F. S. Vogel. Pulmonary arteriovenous fistula associated with capillary telangiectasia (Rendu-Osler-Weber disease): report of a case illustrating use of metal casting for demonstrating the lesion. *J. Thoracic Surg.* 35: 517, 1958.
- with A. Evans, R.N. Pneumoperitoneum in the management of hiatus hernia. Pages 26-29 in *Nursing's Newest Methods*, Annual published by Am. J. Nursing, 1958.
- with N. Finby and J. A. Evans. Pneumoperitoneum as a diagnostic aid in the diaphragmatic area. *Modern Medicine Annual*: 79, 1958.
- with C. W. Pearce, J. Connolly and J. M. Pearce. Carbon black carcinoma of Stenson's duct: a case report. *Arch. Surg.* In press.

MANNIX, HENRY, JR.

with S. W. Moore and G. R. Holswade. Acute cholecystitis, etiology, pathology and complications. *Tr. South. S. A.* 69: 247, 1958.

MARSHALL, VICTOR F.

The management of patients with carcinoma of the prostate. *J. Omaha Mid-West Clin. Soc.* 19: 62, 1958.

with W. F. W. Southwood. A clinical evaluation of nephrotomography. *Brit. J. Urol.* 30: 127, 1958.

with J. H. McGovern. Congenital deficiency of the abdominal musculature and obstructive uropathy. *Surg. Gynec. & Obst.* In press.

MAZZIA, VALENTINO D. B.

An anesthesiologist's approach to prevention of operating room deaths. *Journal-Lancet* 78: 64, 1958.

with J. F. Artusio. Physiological problems in anesthesia during surgery of the gastrointestinal tract. *Surg. Cl. N. A.* April, 1958: 321.

McGOVERN, JOHN H.

with V. F. Marshall. Congenital deficiency of the abdominal musculature and obstructive uropathy. *Surg. Gynec. & Obst.* In press.

McLEAN, JOHN M.

Steroid prophylaxis in sympathetic ophthalmia. *Am. J. Ophth.* 45, part II: 162, 1958.

Eyeglasses as a therapeutic agent. *Sight-Saving Rev.* 28: 22, 1958.

Personal preferences in cataract surgery. *Tr. Penn. Acad. Ophth. & Otol.* 11: 19, 1958.

The cataract section. *Tr. Ophth. Soc. U. Kingdom*, 1958. In press.

Steroid therapy and prophylaxis in sympathetic ophthalmia. *Tr. 18th Internat. Cong. Ophth.*, 1958. In press.

Ocular trauma. Chapter in *Surgery of Trauma*, edited by Preston A. Wade. Grune & Stratton. In press.

with P. R. McDonald. Complications of cataract operations. *Tr. Penn. Acad. Ophth. & Otol.* 11: 22, 1958.

with E. W. D. Norton. Unilateral lid retraction without exophthalmos: a manifestation of thyroid system dysfunction. *Tr. Am. Ophth. Soc.*, 1958. In press.

MEDL, WILLIAM T.

The management of partially detached skin. *Am. J. Surg.* In press.

MOORE, JAMES A.

Mobilization of the stapes: historical aspects. *New York J. Med.* 58: 3095, 1958.

MOORE, S. W.

The physiological basis for diagnostic signs of an acute abdomen. *Surg. Cl. N. A.* April, 1958: 371.

A report upon a patient five years following resection of the abdominal aorta for recurrent carcinoma. *Surg. Gynec. & Obst.* 107: 709, 1958.

Herniorrhaphy technics. Pages 70-80 and 92-94, in *Atlas of Technics in Surgery*, edited by John L. Madden. Appleton, 1958.

Aneurysm of the abdominal aorta. *Wyoming M. J.* In press.

with G. R. Holswade and H. Mannix. Acute cholecystitis, etiology, pathology and complications. *Tr. South. S. A.* 69: 247, 1958.

with F. W. Fuller. Multiple complications of peptic ulcer. *Am. J. Surg.* In press.

NICKEL, W. F.

with M. H. Sleisenger et al. The use of parasympathetic stimulation in the production of bloody diarrhea in dogs with reference to the role of red cell and colon cholinesterase. *Am. J. Gastroenterol.* 34: 582, 1958.

with H. Conway and J. W. Smith. Homotransplantation of thyroid and parathyroid glands by vascular anastomoses. *Plast. & Reconstruct. Surg.* In press.

OKINAKA, ARTHUR

with P. A. Wade. The problems of the supracondylar fracture of the femur in the aged. *Am. J. Surg.* In press.

PAQUIN, ALBERT J., JR.

Insensible body weight loss following uniformly severe surgical trauma. *Ann. Surg.* 148: 937, 1958.

Considerations in ureterovesical anastomosis. *J. Urol.* In press.

Year Book of Cancer—1958, editor. In press.

PARSONS, HERBERT

with J. S. Lewis. Surgery for advanced ear cancer. *Ann. Otol. Rhin. & Laryng.* 67: 364, 1958.

PEARCE, CHARLES W.

with P. Dineen. A ten year study on wound infections. *Surg. Gynec. & Obst.* 106: 453, 1958.

with L. Arditi et al. Measurement of ventricular atrial regurgitation in dogs by indicator dilution method. *Proc. Am. Fed. Clin. Res.* In press.

with B. Maisel et al. Carbon black carcinoma of Stenson's duct: a case report. *Arch. Surg.* In press.

PEARCE, JOHN M.

The suppression of lesions and the development of immunity by means of anti-hyaluronidase in vaccinia and fibroma infections. *Am. J. Path.* In press.

- with B. Maisel et al. Carbon black carcinoma of Stenson's duct: a case report. *Arch. Surg.* In press.
- with B. Thorbjarnarson and J. M. Beal. Sarcoma of the stomach. *Am. J. Surg.* In press.

RAY, BRONSON S.

- Discussion of Treatment of pituitary adenomas: surgery versus radiation, by G. Horrax. *Arch. Neurol. & Psychiat.* 79: 1, 1958.
- Obituary: Gilbert Horrax. *Arch. Neurol. & Psychiat.* 79: 397, 1958.
- Discussion of Early treatment of ruptured intracranial aneurysms, by J. L. Pool. *Tr. Am., Neurol. A.*, 1958. In press.
- Discussion of Interruption of the pituitary stalk in the human with mammary cancer, by Enni and Eckels. *J. Neurosurg.* In press.
- Tumors of the spinal cord and canal; developmental anomalies of the cervico-medullary juncture. Chapters in 10th edition of *A Textbook of Medicine*, edited by Cecil and Loeb. Saunders. In press.
- Surgery of the brain and intracranial structures. Chapter in 7th edition of *Christopher's Textbook of Surgery*. Saunders. In press.
- with O. H. Pearson et al. Hypophysectomy in man. *Arch. Surg.* 77: 144, 1958.
- with O. H. Pearson. Results of hypophysectomy in the treatment of metastatic mammary carcinoma. *Cancer.* In press.
- with O. H. Pearson. Surgical hypophysectomy in the treatment of advanced cancer of breast; physiological effects of adrenalectomy and hypophysectomy. Pages 36-45 and 90-94 of *Proc. Conf. on Endocrine Aspects of Breast Cancer*, edited by A. R. Currie. Livingstone, Edinburgh, 1958.
- with O. H. Pearson. Treatment of metastatic cancer by hypophysectomy. Chapter in *Treatment of Cancer and Allied Diseases*, Vol. IV, edited by Pack and Ariel. Hoeber. In press.
- with O. H. Pearson. A comparison of the results of adrenalectomy and hypophysectomy in cancer of the breast. Chapter in *Cancer*, Vol. VI, edited by R. W. Raven. Butterworth, London. In press.
- with C. G. Weiman, H. S. Dunning and B. S. Straub. Symposium on low back pain. *Practitioners' Conferences*. Appleton. In press.

REDO, S. FRANK

- Evaluation of various cardioplegic methods using the isolated perfused guinea pig heart. *Surg. Gynec. & Obst.* In press.
- The effects of intra-arterial air injection on the EEG, EKG, arterial and venous blood pressure. *Surg. Forum.* In press.
- with W. A. Barnes. Effects of the secretions of the stomach, duodenum, jejunum and colon on the esophagus of the dog. *Surg. Gynec. & Obst.* 106: 337, 1958.
- with F. Glenn. Mitral stenosis and gallstones. *Ann. Surg.* 147: 817, 1958. (Also in *Tr. South. S. A.* 69: 268, 1958.)
- with W. A. Barnes. Effects of perfusion of gastric juice, bile, pepsin and hydrochloric acid on the canine esophagus. *Ann. Surg.* In press.

SHAFFER, DONALD M.

The role and function of the national eye bank. *J. Kentucky M. A.* 56: 141, 1958.

Vitreous implant in retinal detachment. *J. Kentucky M. A.* 56: 438, 1958.

The vitreous story. *New York J. Med.* 58: 2503, 1958.

with Joe L. Bussey. Further experience with vitreous implants in old retinal detachments. *Arch. Ophth.* 60: 255, 1958.

with Joe L. Bussey. Technic of vitreous implant for retinal detachment and the behavior of donor vitreous. *New York J. Med.* In press.

SHORE, NATHAN A.

Examination for temporomandibular joint dysfunction. *New York D. J.* 24: 397, 1958.

SMITH, JAMES W.

with H. Conway. Breast plastic surgery: reduction mammoplasty, mastopexy, augmentation mammoplasty, and mammary construction. Analysis of 245 cases. *Plast. & Reconstruct. Surg.* 21: 8, 1958.

with H. Conway and W. F. Nickel. Homotransplantation of thyroid and parathyroid glands by vascular anastomoses. *Plast. & Reconstruct. Surg.* In press.

SNYDER, STUART S.

Bilateral central artery emboli. *Arch. Ophth.* In press.

Visual field changes in open angle glaucoma. *Ophthalmologia Ibero Americana.* In press.

SPEER, DAVID S.

with W. A. Barnes and J. H. Eckel. Tumors of the chest wall, mediastinum and lung. Revision of Chapter 5, Vol. V, *Lewis' Practice of Surgery*. Prior. Hagerstown, Md., 1958.

with G. J. Hill and H. Steinberg. Brief recording: free perforation of the common bile duct. *New England J. Med.* 259: 1267, 1958.

THORBJARNARSON, BJORN

Carcinoma of the intrahepatic bile ducts. *Arch. Surg.* 77: 908, 1958.

Carcinoma of the bile ducts. *Cancer.* In press.

with L. L. Haynes. Duplication of the stomach. *Surgery* 44: 585, 1958.

with J. M. Pearce and J. M. Beal. Sarcoma of the stomach. *Am. J. Surg.* In press.

with F. Glenn. Five Papers: Present status and recent advances in surgery of the (1) esophagus; (2) stomach; (3) spleen (4) duodenum (5) pancreas. *New York J. Med.* In press.

VAN POZNAK, ALAN

with J. F. Artusio. Series of fluorinated hydrocarbons. *Fed. Proc.* 17: No. 1, #1359, 1958.

with J. F. Artusio. The concept of intermediate potency. *Far East J. Anesth.* 2: 27, 1958.

WADE, PRESTON A.

- The care of multiple injuries. *Southwestern Med.* 40, No. 3, 1958.
- Surgery of Trauma, editor and contributor. Grune & Stratton. In press.
- Automobile accident victims' need for improvement in their care. *Pennsylvania M. J.* In press.
- Fractures of the femur. *J. Michigan M. Soc.* In press.
- with R. D. Campbell. Open versus closed methods in treating fractures of the leg. *Am. J. Surg.* 95: 599, 1958.
- with P. W. Braunstein. Operative treatment of fractures of the ankle. *Ann. Surg.* In press.
- with A. Okinaka. The problem of the supracondylar fracture of the femur in the aged. *Am. J. Surg.* In press.
- with P. W. Braunstein. Preoperative and postoperative care. Chapter in *Traumatic Lesions in the Aged*, edited by Edgar M. Bick. Blakiston, McGraw-Hill. In press.
- with R. D. Campbell and R. Kerin. Intertrochanteric fractures of the femur. *Am. J. Surg.* In press.

WANTZ, GEORGE E., JR.

- Ascites in liver disease: pathogenesis and treatment. *Surg. Cl. N. A.* April, 1958: 407.

WEST, JOHN P.

- Restoration of peripheral arterial continuity by resection and graft (vein) replacement or a shunt bypass; thromboendarterectomy. Pages 568-578 in *Atlas of Technics in Surgery*, edited by John L. Madden. Appleton, 1958.
- Prevention of cardiac arrest. *West. J. Surg.* In press.

CLASSIFICATION OF OPERATIONS

(PAVILION)

Department of Surgery

GRAFTS

Application of intermediate grafts...	30
Application of thin split thickness grafts.....	26
Cutting of pedicle or tube grafts.....	18
Preparation of pedicle or tube grafts..	17
Cartilage grafts.....	6
Application of pinch grafts.....	4

101

SUBCUTANEOUS TISSUE

Local excision of lesion of subcutaneous tissue.....	90
Incision and drainage of subcutaneous abscess.....	46
Wide excision of lesion of subcutaneous tissue.....	18
Excision of pilonidal sinus.....	10
Marsupialization of pilonidal sinus..	8
Secondary closure of wound involving subcutaneous tissue.....	4
Exploration of wound.....	4
Excision of skin and subcutaneous tissue, with graft.....	3

183

ABDOMINAL WALL

Exploratory celiotomy.....	23
Incision and drainage of intra-abdominal abscess.....	8
Secondary suture of wound involving abdominal wall.....	4
Biopsy of peritoneum.....	4
Omentectomy.....	1
Removal of foreign body from peritoneal cavity.....	1
Removal of tumor of peritoneum....	1

42

HERNIA

Inguinal herniorrhaphy.....	227
Ventral herniorrhaphy.....	27
Femoral herniorrhaphy.....	23
Umbilical herniorrhaphy.....	23
Diaphragmatic herniorrhaphy.....	12
Epigastric herniorrhaphy.....	3
Lumbar herniorrhaphy.....	1

316

SKIN

Excision of lesion of skin.....	125
Plastic on skin.....	43
Tattoo of lesion of skin.....	13
Debridement of burn of skin.....	10
Biopsy of lesion of skin.....	7
Repair of skin without graft.....	3
Incision and drainage of lesion of skin	2

203

BREAST

Local excision of lesion of breast...	110
Radical mastectomy.....	34
Biopsy of lesion of breast.....	13
Mastoplasty.....	6
Mastotomy.....	4
Simple mastectomy.....	3

170

BONES

Open reduction of fracture.....	56
Closed reduction of fracture.....	52
Removal of foreign body from bone..	19
Insertion of traction device.....	8
Partial osteotomy.....	7
Biopsy of bone lesion or sternal marrow.....	5
Drainage of bone.....	3
Local excision of lesion of bone....	3
Bone graft for fracture.....	3
Osteotomy.....	1
Operation for non-union of fracture..	1

158

JOINTS, SYNOVIA, CARTILAGE

Excision of lesion of joint.....	21
Excision of intervertebral disk.....	16
Arthroplasty.....	5
Open reduction of dislocation.....	1

43

BURSA

Removal of calcareous deposits.....	1
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MUSCLES

Myectomy.....	23
Local excision of lesion of muscle..	6
Myoplasty.....	2
Exploration of muscle.....	1
Scalenotomy.....	1

33

CLASSIFICATION OF OPERATIONS (PAVILION)—*Continued*

TENDONS		THORAX	
Tenorrhaphy.....	10	Thoractomy with closed drainage....	21
Tenoplasty.....	2	Thoractomy with exploration.....	4
Exploration of tendon.....	1	Thoractomy with open drainage.....	2
Excision of lesion of tendon.....	1	Thoracentesis.....	1
	14	Extrapleural pulmonary plombage...	1
			29
FASCIA		LUNGS, PLEURA, MEDIASTINUM	
Excision of fascia.....	6	Total lobectomy.....	17
Fasciotomy.....	1	Pneumonectomy.....	8
	7	Partial lobectomy.....	5
EXTREMITIES		Pneumonotomy with local excision of lesion of lung.....	4
Amputation of leg.....	14	Mediastinotomy with removal of lesion.....	4
Amputation of toe.....	7	Pleurectomy.....	3
Amputation of finger.....	3	Pneumonotomy with exploration....	1
Syndactyly.....	2	Mediastinotomy with drainage.....	1
Incision and drainage of infection of hand.....	1		43
Incision and drainage of infection of foot.....	1	HEART, PERICARDIUM	
	28	Mitral valvulotomy.....	50
NOSE		Closure of atrial septal defect.....	17
Septectomy.....	37	Pulmonary valvulotomy.....	10
Rhinoplasty.....	27	Cardiac massage.....	7
Reduction of fracture of nose.....	21	Aortic valvulotomy.....	5
Excision of lesion of nose.....	11	Resection of coarctation of aorta....	5
Turbinectomy.....	2	Closure of intraventricular septal defect.....	5
	98	Exploratory cardiotomy.....	5
SINUSES		Pericardiectomy.....	3
Excision of lesion of accessory sinus..	19	Pericardial biopsy.....	2
Radical sinusotomy.....	9	Resection of aorta with graft.....	1
Closure of fistula of maxillary sinus..	4	Insertion of Hufnagel prosthesis into descending aorta.....	1
	32	Removal of foreign body from auricular appendage.....	1
LARYNX, PHARYNX, TRACHEA, BRONCHUS			112
Tracheotomy.....	31	ARTERIES, VEINS	
Bronchoscopy.....	9	Phlebectomy.....	97
Implantation of radon seeds in throat	6	Arteriography.....	86
Total laryngectomy.....	5	Venous anastomosis (portacaval shunt).....	12
Partial laryngectomy.....	3	Ligation of artery.....	11
Laryngoscopy.....	2	Resection of aneurysm with graft...	10
Tracheorrhaphy.....	2	Aortogram.....	9
Incision and drainage of retropharyn- geal abscess.....	1	Arterial anastomosis (tetralogy of Fallot).....	8
	59	Ligation of patent ductus arteriosus..	8
TONSILS, ADENOIDS		Venography.....	7
Tonsillectomy alone or with adenoid- ectomy.....	262	Arteriectomy.....	5
Adenoidectomy alone.....	27	Phlebotomy.....	5
	289	Aneurysmorrhaphy.....	3
		Arteriorrhaphy.....	2
		Embolectomy.....	2
		Arteriectomy.....	1
		Arterial thrombectomy.....	1
			267

CLASSIFICATION OF OPERATIONS (PAVILION)—*Continued*

SPLEEN, LYMPHATICS

Biopsy of lymph nodes.....	65
Local excision of lymph nodes.....	41
Radical excision of lymph nodes.....	10
Splenectomy.....	7
Incision and drainage of abscess of lymph nodes.....	6
Splenogram.....	3
Implantation of radon seeds in lymph nodes of neck.....	2
	134

ORAL CAVITY, SALIVARY GLANDS

Palatoplasty.....	8
Repair of hare lip.....	8
Repair of cleft palate.....	8
Cheiloplasty.....	7
Stomatoplasty.....	5
Excision of salivary gland (including radical neck dissection).....	5
Excision of mouth or lip.....	4
Biopsy of tongue.....	3
Local excision of lesion of dental ridges.....	3
Biopsy of mouth or lip.....	2
Partial glossectomy.....	2
Repair of rhino-oral fistula.....	2
Excision of lesion of parotid gland..	2
Stalolithotomy.....	1
Excision of submaxillary gland.....	1
	61

ESOPHAGUS

Esophagectomy.....	4
Esophagomyotomy.....	3
Esophagogastrrectomy.....	1
Excision of esophageal diverticulum..	1
Esophagojejunostomy.....	1
Esophagoscopy.....	1
	11

STOMACH

Partial gastrectomy.....	90
Gastroenterostomy.....	15
Gastrorrhaphy.....	8
Total gastrectomy.....	6
Gastrostomy.....	5
Pyloromyotomy.....	4
Gastrotomy.....	2
Local excision of lesion of stomach..	1
Biopsy of stomach.....	1
Operation for gastroenteric fistula...	1
Pyloroplasty.....	1
	134

SMALL INTESTINE

Resection of small intestine.....	18
Lysis of adhesions.....	15
Enterostomy.....	4
Enteroenterostomy.....	3
Local excision of lesion of intestine..	2
Excision of Meckel's diverticulum...	2
Ileolithotomy.....	2
Plication of perforated jejunum.....	1
	47

APPENDIX

Appendectomy (acute).....	58
Appendectomy (chronic or incidental)	29
Appendectomy with drainage.....	20
Resection of tumor of appendix.....	1
	108

COLON

Descending or sigmoid colectomy....	34
Colostomy.....	21
Abdominoperineal coloproctectomy...	20
Right colectomy.....	16
Local excision of lesion of colon....	15
Closure of colostomy.....	13
Total colectomy.....	7
Proctosigmoidoscopy.....	6
Reduction of intussusception.....	2
Colotomy.....	1
Transverse colectomy.....	1
Reduction of volvulus.....	1
Suture of large intestine.....	1
Closure of colorectal fistula.....	1
	139

ANUS AND RECTUM

Hemorrhoidectomy.....	43
Local excision of lesion of anus or rectum.....	26
Incision and drainage of perianal or perirectal abscess.....	20
Fistulectomy.....	12
Dilation of anal sphincter.....	3
Anoscopy with removal of foreignbody	1
	105

CLASSIFICATION OF OPERATIONS (PAVILION)—*Continued*

LIVER, BILIARY TRACT, PANCREAS

Cholecystectomy (chronic).....	121
Cholecystectomy and choledochotomy.....	38
Cholecystectomy (acute).....	28
Choledochotomy.....	20
Biopsy of liver.....	7
Percutaneous cholangiogram.....	3
Choledochoplasty.....	3
Cholecystostomy.....	2
Excision of cystic duct remnant.....	2
Radical pancreaticoduodenectomy.....	2
Local excision of lesion of liver.....	1
Partial resection of liver.....	1
Cholecystoenterostomy.....	1
Choledchoenterostomy.....	1
Local excision of ampulla of Vater..	1
Partial pancreatectomy.....	1

232

KIDNEY, RENAL PELVIS

Nephrectomy.....	23
Nephrostomy.....	17
Pyelotomy.....	13
Decapsulation of renal cyst.....	9
Pyeloplasty.....	6
Incision and drainage of kidney.....	4
Incision and drainage of perirenal tissue.....	3
Biopsy of kidney.....	2

77

URETER

Ureterotomy.....	19
Ureterostomy (skin).....	15
Ureterocystostomy.....	10
Ureterosigmoidostomy, uretero-ileostomy.....	5
Ureteroneocystostomy.....	3
Ureteroplasty.....	2
Ureterectomy.....	1
Fulguration of ureterocele.....	1

56

BLADDER, URETHRA

Local excision of lesion of bladder..	49
Operation of urethra.....	21
Cystotomy, cystostomy.....	19
Cystoplasty, cystopexy.....	10
Partial cystectomy.....	7
Biopsy of bladder.....	6
Removal of foreign body from bladder	6
Cystoscopy.....	5
Closure of exstrophy.....	5
Total cystectomy.....	4
Cystorrhaphy.....	4
Repair of cystocele.....	1
Formation of ileal bladder.....	1

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MALE GENITAL SYSTEM

PENIS

Circumcision.....	30
Plastic on penis.....	20
Local excision of lesion of penis...	3
Biopsy of penis.....	1
Incision of penis (dorsal slit).....	1

55

TESTIS

Orchiectomy.....	19
Orchiopexy.....	15
Biopsy of testis.....	1
Insertion of testicular prosthesis...	1

36

SCROTUM

Vasectomy.....	49
Excision of hydrocele.....	12
Local excision of lesion of scrotum	2
Plastic operation on scrotum.....	2
Incision and drainage of abscess of scrotum.....	1

66

PROSTATE

Transurethral electroresection of prostate.....	99
Simple retropubic prostatectomy..	11
Biopsy of prostate.....	7
Suprapubic prostatectomy.....	2
Perineal prostatectomy.....	2
Radical retropubic prostatectomy..	2

123

TOTAL MALE GENITAL SYSTEM..... 280

FEMALE GENITAL SYSTEM

Oophorectomy.....	8
Ovarian cystectomy.....	2

10

ENDOCRINE SYSTEM

Thyroidectomy (non-toxic).....	96
Hypophysectomy.....	40
Thyroidectomy (toxic).....	13
Total thyroidectomy.....	4
Adrenalectomy.....	4
Parathyroidectomy.....	3
Thyroidotomy.....	2
Excision of thyroglossal cyst.....	2
Exploration of endocrine gland.....	1

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CLASSIFICATION OF OPERATIONS (PAVILION)—Continued

SKULL, BRAIN, MENINGES

Encephalography.....	50
Exploration of brain and biopsy.....	32
Ventriculography.....	30
Excision of lesion of meninges.....	8
Decompression.....	7
Exploration of meninges.....	7
Dye test for hydrocephalus.....	7
Exploratory craniotomy.....	4
Ventriculocysternostomy.....	4
Excision of skull tumor.....	3
Open reduction of skull fracture.....	3
Local excision of lesion of brain.....	3
Craniolumbar manometrics.....	3
Craniectomy.....	2
Cranioplasty.....	2
Drainage of meninges.....	2
Biopsy of skull.....	1
Resection of lobe of brain.....	1

169

SPINAL CORD

Myelogram.....	32
Decompression of spinal cord.....	14
Cordotomy.....	7
Rhizotomy.....	5
Excision of lesion of spinal cord.....	4
Exploration of spinal cord.....	3
Intrathecal injection of alcohol.....	2
Ureterosubarachnoid anastomosis.....	2
Laminectomy.....	1
Subarachnoid peritoneal anastomosis.....	1
Ventriculo-opternostomy.....	1

72

NERVES

Sympathectomy (other than for hyper- tension).....	8
Vagotomy.....	4
Excision of lesion of nerve.....	3
Retrogasserian neurotomy.....	2
Sympathectomy for hypertension.....	2
Exploration of nerve.....	1
Neurotomy.....	1
Neurectomy.....	1
Anastomosis of nerve.....	1

23

EAR

Mobilization of stapes.....	15
Bilateral otoplasty.....	12
Ear reconstruction.....	11
Radical mastoidectomy.....	7
Excision of mass in ear canal.....	7
Myringotomy.....	4
Simple mastoidectomy.....	4
Reduction of fractured zygoma.....	1
Electro-coagulation of labyrinth.....	1

62

EYE

Cataract extraction.....	166
Muscle surgery.....	71
Blepharoplasty.....	62
Peripheral iridectomy.....	27
Anterior chamber implant.....	25
Sclerotomy with cautery.....	15
Scleral buckle with diathermy.....	13
Keratoplasty.....	12
Enucleation.....	11
Iridencleisis.....	11
Cyclodialysis.....	10
Anterior chamber implant removal.....	6
Discission.....	6
Excision of lesion of eyelids.....	6
Retinopexy.....	5
Blepharectomy.....	5
Dachryocystorhinostomy.....	5
Repair of iris prolapse.....	4
Iridectomy.....	3
Capsulectomy.....	3
Removal of foreign body from cornea.....	2
Keratectomy.....	2
Goniotomy.....	2
Excision of optic nerve.....	2
Plastic repair of orbit.....	2
Tarsorrhaphy.....	2
Orbitoplasty.....	2
Retrolbulbar alcohol injection.....	1
Keratocentesis.....	1
Repair of corneal graft.....	1
Synechiotomy.....	1
Corneoscleral trephine.....	1
Vitreous implant.....	1
Retinal detachment repair.....	1
Blaskovics-Berke levator resection.....	1
Revision of orbital implant.....	1
Removal of foreign body from orbit.....	1
Orbital exploration with excision of tumor.....	1
Biopsy of orbit.....	1
Orbital exenteration.....	1
Removal of foreign body (poly- ethylene tube).....	1
Flap operation.....	1
Dacryocystectomy.....	1
Repair of epicanthal folds.....	1

497

MISCELLANEOUS

Examination under general anesthesia.....	1
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TOTAL PAVILION OPERATIONS..... 4,750

CLASSIFICATION OF OPERATIONS

(PRIVATE)

Department of Surgery

GRAFTS		SKIN	
Application of thin split thickness grafts.....	52	Excision of lesion of skin.....	131
Application of intermediate grafts....	29	Plastic on skin.....	51
Cutting of pedicle or tube grafts.....	20	Repair of skin without graft.....	16
Preparation of pedicle or tube grafts..	19	Incision and drainage of lesion of skin	16
Cartilage grafts.....	5	Tattoo of lesion of skin.....	9
Application of pinch grafts.....	5	Debridement of burn of skin.....	8
Bone grafts.....	3	Partial excision of nail.....	3
	133	Biopsy of lesion of skin.....	2
			236
SUBCUTANEOUS TISSUE		BREAST	
Local excision of lesion of subcutaneous tissue.....	118	Local excision of lesion of breast....	197
Incision and drainage of subcutaneous abscess.....	46	Radical mastectomy.....	62
Excision of pilonidal sinus.....	18	Mastoplasty.....	15
Wide excision of lesion of subcutaneous tissue.....	15	Simple mastectomy.....	15
Exploration of wound.....	9	Biopsy of lesion of breast.....	4
Marsupialization of pilonidal sinus..	6	Mastotomy.....	4
Excision of skin and subcutaneous tissue, with graft.....	3	Partial mastectomy.....	1
Secondary closure of wound.....	1		298
	216	BONES	
ABDOMINAL WALL		Open reduction of fracture.....	42
Exploratory celiotomy.....	63	Closed reduction of fracture.....	27
Biopsy of peritoneum.....	16	Partial osteotomy.....	15
Incision and drainage of intra-abdominal abscess.....	14	Removal of foreign body from bone..	14
Secondary suture of wound involving abdominal wall.....	4	Biopsy of bone lesion of sternal marrow.....	13
Removal of tumor of peritoneum.....	1	Local excision of lesion of bone....	13
Abdominal paracentesis (operative)..	1	Complete osteotomy.....	9
Umbilectomy.....	1	Insertion of traction device.....	3
	100	Operation for non-union of fracture..	3
HERNIA		Osteotomy.....	2
Inguinal herniorrhaphy.....	382	Removal of traction device, ribs....	2
Ventral herniorrhaphy.....	21	Exploration of bone.....	1
Femoral herniorrhaphy.....	15	Osteoplasty.....	1
Diaphragmatic herniorrhaphy.....	14	Spine fusion.....	1
Umbilical herniorrhaphy.....	12		146
	444	JOINTS, SYNOVIA, CARTILAGE	
		Excision of intervertebral disk.....	49
		Excision of lesion of joint.....	22
		Excision of semilunar cartilage.....	8
		Arthroplasty.....	6
		Manipulation of joint.....	5
		Closed reduction of dislocation.....	5
		Arthrotomy.....	4
		Arthrodesis.....	3
		Chondrectomy.....	1
		Excision of ligament.....	1
			104

CLASSIFICATION OF OPERATIONS (PRIVATE)—*Continued*

BURSA		TONSILS, ADENOIDS	
Excision of bursa.....	6	Tonsillectomy alone or with	
Removal of calcareous deposits.....	3	adenoidectomy.....	385
	9	Adenoidectomy alone.....	20
			405
MUSCLES		THORAX	
Myectomy.....	17	Thoracotomy with exploration.....	10
Scalenotomy.....	4	Thoracoplasty for funnel chest.....	4
Local excision of lesion of muscle...	2	Thoracotomy with closed drainage..	3
Resection of muscle.....	1	Thoracoplasty.....	1
	24	Insertion of chest catheter for	
		pneumothorax.....	1
TENDONS			19
Tenorrhaphy.....	17	LUNGS, PLEURA, MEDIASTINUM	
Tenoplasty.....	5	Total lobectomy.....	18
Exploration of tendon.....	3	Pneumonectomy.....	13
Excision of lesion of tendon.....	3	Partial lobectomy.....	10
Incision and drainage of tendon sheath	2	Mediastinotomy with removal of lesion	4
Tenotomy.....	1	Pneumonotomy with exploration....	3
Transposition of tendon.....	1	Pneumonotomy with local excision of	
	32	lesion of lung.....	2
FASCIA		Pneumonotomy with drainage.....	1
Fasciotomy.....	2	Pleurectomy.....	1
Excision of fascia.....	2		52
	4	HEART, PERICARDIUM	
EXTREMITIES		Mitral valvulotomy.....	29
Amputation of leg.....	19	Cardiac massage.....	5
Amputation of finger.....	10	Resection of aorta with graft.....	4
Amputation of toe.....	9	Exploratory cardiotomy.....	3
Incision and drainage of infection of		Aortic valvulotomy.....	1
hand.....	8	Resection of coarctation of aorta...	1
Incision and drainage of infection of		Closure of intraventricular septal	
foot.....	5	defect.....	1
Amputation of foot.....	3	Pericardiocentesis.....	1
	54	Coronary sinus ligation.....	1
NOSE			46
Septectomy.....	102	ARTERIES, VEINS	
Rhinoplasty.....	85	Phlebectomy.....	121
Excision of lesion of nose.....	10	Arteriography.....	97
Turbinectomy.....	3	Resection of aneurysm with graft...	11
Suture of nose.....	1	Ligation of patent ductus arteriosus.	11
Reduction of fracture of nose.....	1	Ligation of artery.....	7
	202	Venous anastomosis (portacaval	
SINUSES		shunt).....	7
Excision of lesion of accessory sinus.	45	Arteriotomy.....	4
Radical sinusotomy.....	29	Aneurysmorrhaphy.....	4
Simple sinusotomy.....	8	Arterial thrombectomy.....	3
Ethnoidectomy.....	4	Aortogram.....	2
	86	Arteriorrhaphy.....	2
LARYNX, PHARYNX, TRACHEA, BRONCHUS		Aortotomy.....	2
Laryngoscopy.....	47	Ligation of veins.....	2
Tracheotomy.....	20	Embolectomy.....	2
Bronchoscopy.....	9	Arterectomy.....	1
Total laryngectomy.....	1	Excision of arterial aneurysm.....	1
	77	Venography.....	1
		Closure of arteriovenous fistula....	1
			279

CLASSIFICATION OF OPERATIONS (PRIVATE)—*Continued*

SPLEEN, LYMPHATICS

Local excision of lymph nodes.....	47
Biopsy of lymph nodes.....	36
Radical excision of lymph nodes.....	12
Splenectomy.....	10
Splenogram.....	1
	106

ORAL CAVITY, SALIVARY GLANDS

Repair of hare lip.....	17
Excision of mouth or lip.....	11
Palatoplasty.....	10
Cheiloplasty.....	8
Excision of lesion of parotid gland..	8
Repair of cleft palate.....	6
Sialolithotomy.....	5
Excision of salivary gland (including radical neck dissection).....	5
Biopsy of mouth or lip.....	3
Local excision of lesion of tongue...	3
Excision of submaxillary gland.....	2
Local excision of lesion of dental ridges.....	2
Stomatoplasty.....	1
Incision and drainage of Bartholin duct abscess.....	1
	82

ESOPHAGUS

Esophagoscopy.....	8
Esophagomyotomy.....	6
Esophagectomy.....	4
Excision of esophageal diverticulum..	4
Esophagogastrectomy.....	3
Esophagogastrostomy.....	1
Closure of tracheo-esophageal fistula.	1
Dilatation of esophagus.....	1
	207

28

STOMACH

Partial gastrectomy.....	96
Gastroenterostomy.....	20
Gastrostomy.....	7
Gastrorrhaphy.....	6
Local excision of lesion of stomach..	3
Pyloromyotomy.....	2
Biopsy of stomach.....	2
Pyloroplasty.....	2
Gastrotomy.....	1
	139

SMALL INTESTINE

Lysis of adhesions.....	23
Resection of small intestine.....	11
Enteroenterostomy.....	7
Enterostomy.....	4
Biopsy of intestine.....	3
Reduction of intussusception.....	2
Enterotomy.....	1
Enterorrhaphy.....	1
Excision of Meckel's diverticulum..	1
Reduction of volvulus.....	1
	54

APPENDIX

Appendectomy (acute).....	78
Appendectomy (chronic or incidental)	24
Appendectomy with drainage.....	4
Incision and drainage of appendiceal abscess.....	2
	108

COLON

Descending or sigmoid colectomy...	73
Colostomy.....	31
Abdominoperineal coloproctectomy...	27
Local excision of lesion of colon.....	22
Right colectomy.....	18
Closure of colostomy.....	14
Total colectomy.....	7
Transverse colectomy.....	5
Proctosigmoidoscopy.....	5
Abdominoperineal resection.....	2
Application of crushing clamp to descending colon fecal fistula....	1
Perineal coloproctectomy.....	1
Colostomy for removal of foreign body.....	1
	207

ANUS AND RECTUM

Hemorrhoidectomy.....	97
Local excision of lesion of anus or rectum.....	56
Fistulectomy.....	21
Incision and drainage of perianal or perirectal abscess.....	16
Anoplasty.....	8
Dilation of anal sphincter.....	3
Anoscopy with removal of foreign body.....	2
Suture of bleeding points, anus.....	1
Operation for prolapse of rectum....	1
	205

CLASSIFICATION OF OPERATIONS (PRIVATE)—Continued

LIVER, BILIARY TRACT, PANCREAS

Cholecystectomy (chronic).....	211
Cholecystectomy and choledochotomy.....	39
Cholecystectomy (acute).....	29
Choledochotomy.....	12
Cholecystoenterostomy.....	10
Biopsy of liver.....	7
Cholecystostomy.....	7
Pancreatotomy with drainage.....	4
Excision of cystic duct remnant.....	3
Marsupialization of cyst or abscess of liver.....	2
Hepatotomy with drainage.....	1
Partial resection of liver.....	1
Cholecystogastrostomy.....	1
Choledochoplasty.....	1
Choledochostomy.....	1
Biopsy of pancreas.....	1
Partial pancreatectomy.....	1
Total pancreatectomy.....	1
Marsupialization of lesion of pancreas.....	1
Pancreaticocystoenterostomy.....	1

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KIDNEYS, RENAL PELVIS

Nephrectomy.....	33
Pyelotomy.....	21
Nephrostomy.....	14
Pyeloplasty.....	5
Nephrolithotomy.....	4
Incision and drainage of kidney.....	3
Decapsulation of renal cyst.....	3

83

URETER

Ureterotomy.....	9
Ureterostomy (skin).....	9
Ureterocystostomy.....	3
Ureteroplasty.....	2
Ureterosigmoidostomy.....	1

24

BLADDER, URETHRA

Cystoscopy.....	115
Local excision of lesion of bladder.....	90
Cystotomy, cystostomy.....	30
Cystoplasty, cystopexy.....	22
Operation of urethra.....	15
Partial cystectomy.....	14
Biopsy of bladder.....	9
Total cystectomy.....	6
Removal of foreign body from bladder.....	4
Operation for bladder fistula.....	3
Closure of exstrophy.....	3
Cystorrhaphy.....	2
Repair of cystocele.....	1

314

MALE GENITAL SYSTEM

PENIS

Plastic on penis.....	30
Circumcision.....	15
Local excision of lesion of penis.....	2
Irrigation of corpora cavernosa.....	2

49

TESTIS

Orchiectomy.....	22
Orchiopexy.....	20
Biopsy of testis.....	9
Removal of cyst of testicle.....	1

52

EPIDIDYMIS

Excision of lesion of epididymis.....	4
Epididymectomy.....	4

8

SCROTUM

Excision of hydrocele.....	26
Vasectomy.....	6
Local excision of lesion of scrotum.....	3
Incision and drainage of abscess of scrotum.....	1
Excision of varicocele.....	1

37

PROSTATE

Transurethral electroresection of prostate.....	150
Suprapubic prostatectomy.....	81
Simple retropubic prostatectomy.....	10
Perineal prostatectomy.....	7
Biopsy of prostate.....	7
Radical perineal prostatectomy.....	3
Radical retropubic prostatectomy.....	2
Incision and drainage of prostatic abscess.....	1

261

TOTAL MALE GENITAL SYSTEM..... 407

FEMALE GENITAL SYSTEM

Total hysterectomy.....	25
Oophorectomy.....	19
Pan hysterectomy.....	8
Dilatation and curettage.....	8
Ovarian cystectomy.....	7
Vaginal hysterectomy.....	6
Colpoperineorrhaphy.....	5
Colpoplasty.....	3
Biopsy of cervix.....	3
Salpingectomy.....	2
Excision of cervical polyp.....	2
Operation of vulva.....	1
Supracervical hysterectomy.....	1
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Excision of lesion of eyelids.....	3
Evisceration.....	2
Removal of foreign body from cornea.....	2
Keratotomy.....	2
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CLASSIFICATION OF DEATHS

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TABLE I
OPERATIVE DEATHS, GENERAL SURGERY (PAVILION)

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation(s)</i>	<i>Cause(s) of Death</i>	<i>Autopsy</i>
DEATHS RELATED TO CARDIOVASCULAR AND VASCULAR DISEASES: 23					
56-165	57	Rheumatic heart disease with mitral stenosis	Mitral valvulotomy	Cerebral infarction	Yes ✓
54-872	47	Rheumatic heart disease with recurrent mitral stenosis, congestive heart failure	Open mitral valvulotomy	Progressive cardiac decompensation	Yes ✓
510-497	44	Recurrent mitral stenosis	Mitral valvulotomy with cardiac bypass	Renal failure	Yes ✓
569-872	46	Rheumatic heart disease with mitral and aortic stenosis	Mitral and aortic valvulotomy, cardiac bypass	Staphylococcus aureus pleuritis and pericarditis	Yes ✓
77-620	51	Pulmonary artery thrombosis	Cardiotomy	Pulmonary artery thrombosis	Yes ✓
51-769	24	Congenital pulmonic stenosis	Open cardiotomy, pulmonic valvuloplasty	Cerebral anoxia	No
518-441	11	Intraventricular septal defect	Open cardiotomy, repair of ventricular septal defect	Cardiac arrest	Yes ✓
533-854	10	Congenital heart disease, mitral stenosis, patent ductus arteriosus, coarctation of aorta, neurofibromatosis	Open cardiotomy, mitral valvulotomy	Pulmonary edema	Yes ✓
808-487	39	Rheumatic heart disease with aortic stenosis	Open cardiotomy, aortic valvuloplasty	Cerebral damage secondary to total cardiopulmonary bypass	Yes Medical Examiner
737-376	2	Intraventricular septal defect	Repair of intraventricular septal defect	Cardiac arrest	Yes
671-457	25	Residual intra-atrial septal defect, pulmonary hypertension, arteriosclerosis	1. Closure of intra-atrial septal defect 2. Cardiac massage	Cardiac arrest	Yes
750-682	7	Congenital heart disease with atrial septal defect	1. Repair of septal defect, cardiac bypass 2. Closed right thoractomy	Staphylococcus aureus empyema and pericarditis	Yes ✓

796-295	21	Pulmonic infundibular stenosis, multiple congenital anomalies	Opening of infundibular pulmonic stenosis	Cardiac failure	Yes
800-470	3 mos.	Congenital heart disease, tetralogy of Fallot	Arterial anastomosis, Blalock procedure	Cardiac arrest	Yes Medical Examiner
126-005	30	Rheumatic heart disease with aortic insufficiency, aortic stenosis and regurgitation, post aortic valvulotomy, duodenal ulcer	1. Insertion of Hufnagel prosthesis 2. Right femoral artery embol-ectomy	Hemorrhage from aortic anasto-mosis	No
800-084	65	Rheumatic heart disease with atrial fibrillation, cerebral vascular acci-dent one month prior to admission	†Bilateral femoral artery embol-ectomy	Cerebral emboli	Yes
669-618	71	Superior mesenteric artery embolus, cerebral vascular occlusion, post pulmonary embolus, post myo-cardial infarction, diabetes mellitus	†1. Resection of small and large intestine, superior mesenteric artery embol-ectomy 2. Tracheotomy	Cerebral thrombosis	Yes
543-648	63	Abdominal aortic aneurysm with perforation	†Aortogram, resection of abdominal aortic aneurysm	Hemorrhage	Yes
788-355	72	Arteriosclerotic abdominal aortic aneurysm, hypertensive cardiovascular disease, generalized arterio-sclerosis	Resection of abdominal aortic aneu-rysm	Renal artery thrombosis	No
789-040	49	Abdominal aortic thrombosis, gen-eralized atherosclerosis	Aortic endarterectomy	Renal failure	Yes
394-242	69	Diabetic and arteriosclerotic gan-grene of foot, diabetes mellitus	Mid-thigh amputation	Myocardial infarction	No
794-138	76	Arteriosclerotic gangrene of foot, diabetes mellitus, generalized ar-teriosclerosis, senility	Mid-thigh amputation	Coronary occlusion	Yes
793-919	64	Diabetic gangrene of right fifth toe, diabetic ulcer of right fourth toe, diabetes mellitus, coronary artery disease	Transmetatarsal amputation of right fourth and fifth toes	Coronary occlusion	No

(*Cancer Cases: 0)

(†Emergencies: 3)

TABLE 1: OPERATIVE DEATHS, GENERAL SURGERY (PAVILION)—Continued

Number	Age	Primary Diagnosis	Operation(s)	Cause(s) of Deaths	Autopsy
DEATHS RELATED TO GASTROINTESTINAL DISEASES: 11					
793-952	69	*Gastric cancer, obesity	Exploratory laparotomy	Carcinomatosis	Yes
803-586	85	*Gastric cancer with esophageal extension	Exploratory laparotomy, biopsy of omentum	Carcinomatosis	Yes
516-753	48	*Gastric cancer with metastases to mesenteric fat, pancreas, right gastric artery node, mesenteric lymph node	1. Partial gastrectomy, splenectomy, radical pancreatectomy, resection of transverse colon, partial small bowel resection 2. Ligation of bleeding pancreatic vessel	Liver necrosis	Yes
494-936	46	Duodenal ulcer with hemorrhage	1. Partial gastrectomy, vagotomy 2. Thoracotomy, plication of ruptured esophagus, drainage of empyema	Mediastinitis secondary to esophageal rupture	Yes
804-945	74	*Cancer of ascending colon	Right colectomy	Pulmonary embolism	Yes
783-119	15	Ulcerative colitis, posthepatic cirrhosis	1. Ileostomy 2. Subtotal colectomy	Peritonitis, liver failure	Yes
413-699	56	*Hodgkin's disease, lymphomatous infiltration of stomach and splenic flexure of colon, splenic abscess	1. Exploratory laparotomy 2. Transverse colostomy	Carcinomatosis, peritonitis, subarachnoid hemorrhage	Yes
147-326	76	Large bowel obstruction secondary to colonic diverticulitis, congestive heart failure, arteriosclerotic heart disease	Transverse colostomy	Cardiac arrest	Yes
185-729	59	Acute ulcerative ileitis with walled-off abscess, agnogenic mycoid metaplasia	Partial small bowel resection ileotransverse colostomy	Acute hemolytic crisis	Yes
797-772	73	*Cancer of cecum with vesicocoelectaneous and ileocolic fistulae	1. Incision and drainage of pelvic abscess 2. Bilateral vas ligation 3. Right hemicolectomy	Multiple pulmonary abscesses	Yes

464-902	80	*Rectal cancer with local perforation and gas gangrene, hypertensive cardiovascular disease, diabetes mellitus, cirrhosis of liver	†Sigmoid colostomy, incision and drainage of perirectal abscess	Bronchopneumonia	Yes
DEATHS RELATED TO DISEASES OF BILIARY TRACT, LIVER, PANCREAS: 11					
793-137	4 mos.	Intra- and extrahepatic biliary atresia	Exploratory laparotomy	Cirrhosis of liver	Yes
789-343	74	Cirrhosis of liver, diabetes mellitus, diabetic ulcer of foot, colonic papillomata, cholelithiasis	1. Amputation of toe 2. Exploratory laparotomy, liver biopsy, cholecystostomy 3. Subtotal colectomy	Gastrointestinal hemorrhage	Yes
177-220	58	Cirrhosis of liver, acute cholecystitis	†Cholecystectomy, choledochotomy, liver biopsy	Laennec's cirrhosis with liver failure	Yes
762-073	75	*Gastric cancer with obstruction of common bile duct	Choledochotomy with insertion of T-tube	Gastric cancer with metastases to intra-abdominal lymph nodes, duodenum, pancreas	No
548-776	69	*Cancer of pancreas, intracranial bullet	Exploratory laparotomy, choledochotomy	Carcinomatosis	Yes
307-752	65	*Cancer of head of pancreas with metastases to celiac lymph nodes and liver, Parkinson's syndrome	Exploratory laparotomy, cholecystoenterostomy	Hepatic failure	No
860-770	69	*Cancer of hepatic bile duct, intra-abdominal carcinomatosis, biliary cirrhosis	Exploratory laparotomy, operative cholangiogram	Intra-abdominal carcinomatosis	Yes
748-206	45	Laennec's cirrhosis with esophageal varices, ascites, massive hemorrhage	†Portacaval shunt	Pseudomonas pyocyaneus renal infection with septicemia and renal failure	Yes
782-962	69	Laennec's cirrhosis with portal hypertension, bleeding esophageal varices	†Portacaval shunt	Staphylococcus aureus septicemia	Yes
794-237	56	Hepatitis, Laennec's cirrhosis, esophageal varices	†Portacaval shunt	Hepatitis	Yes
459-137	73	*Cancer of ampulla of Vater	Radical pancreaticoduodenectomy	Hepatorenal failure	Yes

(*Cancer Cases: 12)

(†Emergencies: 5)

TABLE 1: OPERATIVE DEATHS, GENERAL SURGERY (PAVILION)—Continued

Number	Age	Primary Diagnosis	Operations(s)	Cause(s) of Death	Autopsy
DEATHS RELATED TO DISEASES OF ESOPHAGUS AND LUNGS: 5					
798-018	3 days	Esophageal atresia, prematurity	Esophagostomy, gastrostomy	Prematurity	No
784-191	59	*Cancer of esophagus, paroxysmal auricular fibrillation	Biopsy of para-esophageal mass in neck, tracheotomy	Tracheal obstruction from cancer of esophagus	Yes
789-039	55	*Cancer of esophagus and secondary para-esophageal lymph nodes	Esophagectomy, interposition of right colon between cervical esophagus and stomach, pyloroplasty	Right colonic necrosis	Yes
794-890	21 days	Lung abscess, prematurity	Closed thoracotomy	Pneumonia	Yes
448-277	54	*Lung cancer, chronic pulmonary emphysema	1. Right scalene node biopsy 2. Right pneumonectomy	Bronchopneumonia	Yes
DEATHS RELATED TO KIDNEY DISEASES: 2					
334-840	48	Ureteral calculus with obstruction of solitary kidney, duodenal ulcer, hypercalcaemia	1. Pyelolithotomy 2. Subtotal gastrectomy, cholecystectomy	Staphylococcus aureus enterocolitis	Yes
704-462	32	*Recurrent renal cancer with spread to inferior vena cava and retroperitoneal area	Exploratory laparotomy, left thoracotomy with cardiac massage, excision of mesenteric lymph node, partial resection of small intestine	Renal cancer with spread to retroperitoneal area	No
DEATH RELATED TO THYROID DISEASE: 1					
149-557	75	Recurrent toxic nodular goiter, arteriosclerotic cardiovascular disease	Partial thyroidectomy	Acute congestive heart failure	Yes

(*Cancer Cases: 4)

(!Emergencies: 0)

TABLE 1: SUMMARY

OPERATIVE DEATHS, GENERAL SURGERY (PAVILION)

Cancer cases in which cancer caused death.....	8	Deaths following elective operations.....	45
Cancer cases with other causes of death.....	8	Deaths following emergency operations.....	8
TOTAL CANCER CASES.....	16	TOTAL OPERATIVE DEATHS.....	53

TABLE II
OPERATIVE DEATHS, SURGICAL SPECIALTIES (PAVILION)

Number	Age	Primary Diagnosis	Operation(s)	Cause(s) of Death	Autopsy
217-557	73	Intertrochanteric fracture of right femur, arteriosclerotic heart disease in congestive heart failure, pulmonary emphysema	FRactURE: 6 †Closed reduction, insertion of Jewett nail	Bronchopneumonia	Yes
795-058	87	Intertrochanteric fracture of right hip, arteriosclerotic heart disease, post right radical mastectomy	†Closed reduction, insertion of Jewett nail	Myocardial infarction	No Medical Examiner
803-104	78	Intertrochanteric fracture of right femur, arteriosclerotic heart disease, chronic congestive heart failure, pulmonary fibrosis, emphysema	†Closed reduction, insertion of Jewett nail	Bronchopneumonia, myocardial failure	Yes Medical Examiner
803-856	71	Fracture of right femoral neck, arteriosclerotic heart disease in congestive failure, arteriolar nephrosclerosis	†Closed reduction, insertion of Smith-Petersen nail	Thrombosis of right middle cerebral artery	Yes
809-105	79	Subcapital fracture of left femur, essential hypertension	†1. Closed reduction, internal fixation with Ken-Pugh nail 2. Tracheostomy	Pneumonia	Yes Medical Examiner
786-857	88	Closed fracture of left femoral shaft, closed fracture of right medial tibial condyle, generalized arteriosclerosis, absence of left femoral head, post excision for aseptic necrosis	†Open reduction, intramedullary rod fixation	Left femoral, right tibial fractures; cerebral arteriosclerosis, generalized arteriosclerosis	Yes Medical Examiner
785-163	53	*Cancer of breast with metastases to brain, liver, bone; diabetes mellitus, coronary artery disease	NEUROSURGERY: 15 Incision and drainage of abscess of left hip	Metastatic cancer of breast	No

(*Cancer Cases: 1)

(†Emergencies: 6)

TABLE II: OPERATIVE DEATHS, SURGICAL SPECIALTIES (PAVILION)—Continued

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation(s)</i>	<i>Cause(s) of Death</i>	<i>Autopsy</i>
(NEUROSURGERY: 15—Continued)					
729-187	68	*Metastatic cancer of breast	1. Hypophysectomy 2. Elevation of bone flap	Right coronary artery thrombus	Yes
786-568	44	*Cancer of breast with extensive metastases	Hypophysectomy	Metastatic cancer of breast	Yes
790-092	43	*Cancer of breast with metastases to brain	Bilateral carotid arteriograms, bilateral burr holes, attempted ventriculography-pneumoencephalogram	Cerebral metastases from cancer of breast	No
799-129	35	*Cancer of breast with metastases to lung and bone	Decompression laminectomy	Acute right heart failure	Yes
809-390	59	*Lung cancer with metastases to brain and spinal cord, gout, arteriolar nephrosclerosis	Insertion of ventricular catheter, arteriogram	Cerebral metastases from lung cancer	Yes
400-788	68	*Glioblastoma multiforme of right cerebrum, coronary artery disease	Bilateral percutaneous arteriograms, ventriculography, right craniotomy, biopsy of infiltrating tumor	Glioblastoma multiforme of right cerebrum	Yes
789-761	28	*Glioblastoma multiforme of right temporal lobe	Right carotid arteriogram, ventriculogram, right temporal craniotomy with decompression, tracheotomy	Glioblastoma multiforme of right temporal parietal region	No
719-746	53	*Left cerebral tumor, unverified; coronary artery disease, diabetes mellitus	Ventriculography, arteriography, left craniotomy with brain biopsy	Left cerebral tumor, unverified	No
793-199	72	Acoustic neurinoma, pulmonary emphysema, benign prostatic hypertrophy	1. Vertebral and right carotid arteriography 2. Excision of acoustic neurinoma, tracheostomy, re-exploration of cerebello pontile angle, evacuation of blood clot	Brain stem compression secondary to clot formation	No
796-994	44	Multiple intracranial aneurysms	1. Bilateral carotid arteriograms 2. Left carotid arteriogram 3. Left temporal craniotomy	Massive intracranial hemorrhage	Yes

809-147	40	Subarachnoid hemorrhage, aneurysm of right posterior communicating artery	†1. Carotid arteriogram 2. Exploratory craniotomy	Cerebrovascular insufficiency	Yes
804-462	61	*Carcinomatosis, primary unknown; relaxed vaginal outlet	1. Anterioposterior repair 2. Biopsy of sacrum	Pulmonary metastases	No
635-056	32	Meningitis of unknown etiology, pregnancy of 16 weeks' duration	Pneumoventriculography, pneumoencephalography, posterior fossa exploration	Meningitis of unknown etiology	Yes Medical Examiner
805-626	1 month	Sacral meningocele, patulous anal sphincter, paraparesis, hydrocephalus	1. Repair of meningocele 2. Skin graft	Meningitis	Yes
803-382	43	Retinal detachment of right eye, bronchial asthma	OPHTHALMOLOGY: 1 Scleral buckle, right eye	Encephalomalacia, lower nephron nephrosis	Yes
52-334	82	*Cancer of larynx, emphysema, chronic bronchitis, arteriosclerotic heart disease with right bundle branch block	OTOLARYNGOLOGY: 1 Tracheotomy	Bronchopneumonia	No
731-868	33	Second and third degree burns of 95% of skin surface	PLASTIC SURGERY: 1 †Tracheostomy, burn dressing	Second and third degree burns	Yes Medical Examiner
807-531	53	Left ureteral calculus, acute pyelonephritis	UROLOGY: 7 Left ureterolithotomy	Septicemia	Yes
99-498	83	Benign prostatic hypertrophy, bilateral renal calculi, left ureteral calculus, acute pyelonephritis, multiple renal abscesses, arteriosclerotic heart disease, congestive heart failure	1. Vasectomy 2. Left ureterolithotomy, left nephrostomy	Bronchopneumonia	Yes

(*Cancer Cases: 10)

(†Emergencies: 2)

TABLE II: OPERATIVE DEATHS, SURGICAL SPECIALTIES (PAVILION)—Continued

Number	Age	Primary Diagnosis	Operation(s)	Cause(s) of Death	Autopsy
(Urology: 7—Continued)					
670-713	81	Right ureteral and renal calculi, benign prostatic hypertrophy, arteriosclerotic heart disease	Right ureterolithotomy, suprapubic cystostomy	Staphylococcal enterocolitis, bronchopneumonia	Yes
788-362	46	*Cancer of bladder, acute pyelonephritis	1. Bilateral curaneous ureterostomies 2. Right nephrostomy	Pyelonephritis, cancer of bladder	Yes
789-576	63	*Cancer of bladder, Aerobacter agrogenic septicemia, left pyelonephritis	1. Radical cystectomy with ureterosigmoidostomies 2. Left nephrostomy	Septicemia	No
789-300	83	Benign prostatic hypertrophy, arteriosclerotic heart disease, congestive heart failure, acute myocardial infarction	Bilateral vasectomy	Coronary occlusion	Yes
769-073	43	*Ureteral calculi, tuberculosis, lymphosarcoma	1. Right retrograde pyelogram 2. Left retrograde pyelogram and left nephrostomy	Monilia septicemia	Yes†

(*Cancer Cases: 3)

(†Emergencies: 0)

TABLE II: SUMMARY
OPERATIVE DEATHS, SURGICAL SPECIALTIES (PAVILION)

Cancer cases in which cancer caused death.....	9	Deaths following elective operations.....	23
Cancer cases with other causes of death.....	5	Deaths following emergency operations.....	8
TOTAL CANCER CASES.....	14	TOTAL OPERATIVE DEATHS.....	31

TABLE III
NONOPERATIVE DEATHS (PAVILION)

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Cause(s) of Death</i>	<i>Autopsy</i>
GENERAL SURGERY: 8				
303-249	72	§Perforated duodenal ulcer, peritonitis, shock, renal shut down	Peritonitis, renal shutdown	Yes
108-465	76	Duodenal and gastric ulcer with pyloric obstruction, arteriosclerotic cardiovascular disease	Myocardial infarction	Yes
785-856	63	§Saddle embolus of abdominal aorta, arteriosclerotic heart disease, auricular fibrillation, congestive heart failure	Saddle embolus of abdominal aorta	No
748-195	61	*Lung cancer with metastases	Carcinomatosis	Yes
786-632	72	*Sigmoid cancer with metastases, coronary artery disease with old infarct	Myocardial infarction	Yes
798-400	68	*Gastric cancer	Pulmonary emboli, carcinomatosis	Yes
687-836	18	*Leiomyosarcoma of stomach with metastases	Metastatic leiomyosarcoma	No
670-303	43	*Cancer of right bronchial cleft cyst with metastases to cervix and cranium	Metastatic cancer	No
SURGICAL SPECIALTIES: 9				
FRACTURE: 1				
812-045	34	Fracture of right tibia and fibula	Pulmonary embolus	Yes Medical Examiner
NEUROSURGERY: 1				
792-200	52	*Rectal cancer with metastases to sacrum, liver, lung	Metastatic rectal cancer	Yes
OTOLARYNGOLOGY: 1				
361-160	76	*Cancer of tongue extending to floor of mouth and right anterior neck, pulmonary tuberculosis, arteriovascular heart disease, subarachnoid hemorrhage	Subarachnoid hemorrhage	No

(*Cancer Cases: 7)

(§Nonoperative Emergencies: 2)

TABLE III: NONOPERATIVE DEATHS (PAVILION)—Continued

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Cause(s) of Death</i>	<i>Autopsy</i>
UROLOGY: 6				
451-060	70	Right renal calculi, bilateral chronic pyelonephritis, arteriosclerotic heart disease, pulmonary fibrosis, emphysema	Acute pulmonary edema	Yes
637-969	62	Bilateral nephrolithiasis, uremia	Uremia secondary to chronic pyelonephritis	Yes
705-770	80	*Uremia secondary to chronic pyelonephritis and nephrosclerosis; prostatic cancer; pulmonary fibrosis and emphysema; inactive duodenal ulcer; arteriosclerotic cardiovascular disease	Uremia	No
744-258	78	*Metastatic cancer of prostate, arteriosclerotic heart disease	Metastatic cancer, bronchopneumonia	No
553-526	63	*Cancer of colon with perforation, generalized peritonitis, nine years post radical cystectomy with ureterointestinal anastomoses	Generalized peritonitis	Yes
680-014	74	Urethral stricture, Aerobacter aerogenes septicemia	Aerobacter aerogenes septicemia	Yes

(*Cancer Cases: 3)

(§Nonoperative Emergencies: 0)

TOTAL PAVILION DEATHS—1958

Operative deaths	84	Autopsies	77 (including 8 medical examiner's cases)	76.2%
Nonoperative deaths	17	No autopsies	24 (including 1 medical examiner's case)	
	101			
Cancer cases in which cancer caused death	23	Deaths following operative emergencies	16	
Cancer cases with other causes of death	17	Deaths following nonoperative emergencies	2	
TOTAL CANCER CASES	40	TOTAL DEATHS FOLLOWING EMERGENCIES	18	

TABLE IV
OPERATIVE DEATHS, GENERAL SURGERY (PRIVATE)

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation(s)</i>	<i>Cause(s) of Death</i>	<i>Autopsy</i>
DEATHS RELATED TO DISEASES OF BILIARY TRACT, LIVER, PANCREAS: 9					
801-076	73	Chronic cholecystitis, cholelithiasis, arteriosclerotic cardiovascular disease, old coronary occlusion	Cholecystectomy with drainage	Coronary occlusion	No
787-198	68	Chronic cholecystitis, gallbladder calculi, chronic cholecystitis, adenoma of bile duct	1. Cholecystectomy, common duct exploration 2. Exploratory laparotomy, common duct exploration, biopsy	Cardiovascular accident	Yes
794-328	58	Cirrhosis of liver, ascites, chronic cholecystitis, cholelithiasis, meningioma of brain	Exploratory laparotomy, cholecystectomy with drainage	Hepatic failure	Yes
800-375	65	Chronic granuloma of pancreas, peripancreatic lymph nodes, liver, diabetes mellitus, arteriosclerotic cardiovascular disease, cholelithiasis, congenital absence of left kidney and testis	1. Cholecystectomy, biopsy of granuloma of pancreas 2. Drainage of pancreatic cyst 3. Exploratory laparotomy, drainage of intra-abdominal abscess	Pancreatitis, peritonitis	Yes
799-500	67	*Cancer of pancreas with metastases to liver and peri-pancreatic nodes, arteriosclerotic cardiovascular disease	Cholecystojejunostomy	Coronary occlusion	Yes
791-424	68	*Cancer of gallbladder	Exploratory laparotomy, liver biopsy	Cancer of gallbladder	No
149-037	60	*Cancer of liver with extensive metastases	Exploratory laparotomy, liver biopsy	Bleeding esophageal varices	Yes
762-550	23	Echinococcal cyst of liver	Marsupialization of echinococcal cyst	Pulmonary infarction	No
785-630	47	Hepatoma, biliary cirrhosis, duodenal ulcer	Portacaval shunt	Bleeding esophageal varices	Yes

(*Cancer Cases: 3)

(†Emergencies: 0)

TABLE IV: OPERATIVE DEATHS, GENERAL SURGERY (PRIVATE)—Continued

Number	Age	Primary Diagnosis	Operation(s)	Cause(s) of Death	Autopsy
DEATHS RELATED TO GASTROINTESTINAL DISEASES: 8					
802-938	70	*Metastatic cancer of colon	1. Exploratory laparotomy, transverse colostomy, biopsy of sigmoid 2. Sigmoid resection, hysterectomy, bilateral salpingo-oophorectomy	Pneumonia	No
612-631	72	*Abdominal carcinomatosis, arterio-sclerotic heart disease	Exploratory laparotomy, biopsy of tumor	Abdominal carcinomatosis	Yes
745-330	62	*Gastric cancer with direct extension to spleen and diaphragm	1. Thoraco-abdominal exploration with biopsy of nodes, gastrostomy 2. Tracheotomy	Carcinomatosis	Yes
681-981	71	Acute diverticulitis of colon with perforation and generalized peritonitis, arteriosclerotic heart disease	†Exploratory laparotomy, transverse colostomy	Myocardial failure	Yes
801-331	5 days	Atresia of first portion of duodenum	†Gastrojejunostomy	Bronchopneumonia	Yes
659-369	63	Benign gastric ulcer, hypertensive arteriosclerotic heart disease	Partial gastrectomy	Pseudomembranous enterocolitis	No
262-345	71	Active duodenal ulcer with massive hemorrhage, arteriosclerotic heart disease, diabetes mellitus, bulbous pulmonary emphysema	†Partial gastrectomy	Myocardial failure	Yes
677-749	60	*Intestinal obstruction secondary to rectal cancer, subphrenic abscess	†Lysis of adhesions, drainage of subphrenic abscess	Uremia secondary to carcinomatosis	No
DEATHS RELATED TO CARDIOVASCULAR AND VASCULAR DISEASES: 6					
793-677	54	Rheumatic heart disease with mitral stenosis	Mitral valvulotomy	Congestive heart failure	Yes
795-126	45	Dissecting aneurysm of abdominal aorta with obstruction	1. Resection of abdominal aorta with homograft replacement †2. Cardiac massage	Abdominal hemorrhage secondary to rupture of aortic homograft	No Medical Examiner

772-604	62	Thrombosis of common iliac arteries, hemorrhage about aortic graft prosthesis	Exploration of aortic graft prosthesis	Thrombosis of common iliac arteries	Yes
792-154	44	Arteriosclerosis obliterans, gangrene of leg	Left iliac thromboendarterectomy	Bronchopneumonia	Yes Medical Examiner
780-684	68	Gangrene of right foot, arterio-sclerotic cardiovascular disease	Mid-thigh amputation	Cerebrovascular accident	No
788-953	71	Generalized arteriosclerosis, arterio-sclerotic gangrene of foot, arterio-sclerotic heart disease	Mid-thigh amputation	Myocardial failure	No
DEATHS RELATED TO HERNIA, AND TO DISEASES OF KIDNEY, LUNG, OVARY: 5					
675-376	65	Incarcerated femoral hernia, pulmonary emphysema, bronchial asthma	†Right femoral hernioplasty	Respiratory failure	Yes
758-634	54	Right indirect inguinal hernia, hypertensive cardiovascular disease, gouty arthritis	Inguinal herniorrhaphy	Acute myocardial infarction	No
697-618	70	Left pyelonephritis, ureteritis, rheumatoid arthritis	Exploratory celiotomy	Bronchopneumonia	Yes
797-683	45	*Lung cancer	1. Right pneumonectomy †2. Cardiac massage	Cardiac arrest	No
802-160	51	*Metastatic cancer of ovary, intestinal obstruction	Small bowel resection, lysis of adhesions, implantation of radioactive phosphorus	Coronary occlusion	No

(*Cancer Cases: 6)

(†Emergencies: 7)

TABLE IV: SUMMARY

OPERATIVE DEATHS, GENERAL SURGERY (PRIVATE)

Cancer cases in which cancer caused death.....	4	Deaths following elective operations.....	21
Cancer cases with other causes of death.....	5	Deaths following emergency operations.....	7
TOTAL CANCER CASES.....	9	TOTAL OPERATIVE DEATHS.....	28

TABLE V
OPERATIVE DEATHS, SURGICAL SPECIALTIES (PRIVATE)

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation(s)</i>	<i>Cause(s) of Death</i>	<i>Autopsy</i>
504-967	79	Intertrochanteric fracture of right hip, cirrhosis of liver portal, arteriosclerotic heart disease, auricular fibrillation	FRACTURE: 2 †1. Closed reduction, insertion of Jewett nail 2. Incision and drainage of hematoma of thigh	Generalized arteriosclerosis	No Medical Examiner
794-611	78	Intracapsular fracture of right hip, pemphigus vulgaris, chronic duodenal ulcer	†Closed reduction, insertion of Pugh nail	Pemphigus vulgaris	Yes
739-079	65	*Metastatic cancer of breast, otosclerosis, post adrenalectomy and oophorectomy	NEUROSURGERY: 19 Hypophysectomy	Carcinomatosis	Yes
811-516	49	*Metastatic cancer of breast	Hypophysectomy	Cardiac arrest	Yes
799-759	65	*Cancer of breast with metastases to lung	1. Biopsy of recurrent breast tumor 2. Hypophysectomy	Cancer of breast	Yes
554-206	71	*Metastatic cancer of breast	1. Hypophysectomy 2. Elevation of bone flap	Cerebrovascular accident	Yes
786-500	69	*Cancer of breast with extensive metastases, coronary artery disease	1. Hypophysectomy 2. Elevation of bone flap, tracheostomy	Metastatic cancer of breast	Yes
808-598	52	*Cancer of breast with extensive metastases	1. Hypophysectomy 2. Evacuation of epidural hematoma 3. Removal of bone flap, tracheostomy	Metastatic cancer of breast	Yes
803-340	54	Diabetes mellitus, diabetic retinopathy, hypertensive vascular disease	Hypophysectomy	Coronary occlusion	Yes
800-101	55	Spontaneous subarachnoid hemorrhage, hypertensive cardiovascular disease	1. Evacuation of left temporal lobe hematoma 2. Tracheotomy	Massive intracranial hemorrhage	Yes
800-140	37	Intracranial arteriovenous anomaly	Bilateral temporal burr holes, evacuation of left temporal lobe hematoma	Massive intracranial hemorrhage	Yes

784-613	49	Intracranial hemorrhage	Bilateral temporal burr holes, evacuation of subdural hematoma, ventriculogram, left temporal craniotomy, evacuation of temporal lobe hematoma, tracheostomy	Intracranial hemorrhage	No	
802-525	59	Subarachnoid hemorrhage	Exploratory burr holes, ventriculogram	Massive intracranial hemorrhage	Yes	
791-636	55	*Lung cancer with metastases to brain, benign prostatic hypertrophy	1. Right carotid arteriogram 2. Ventriculogram 3. Biopsy of right parietal brain tumor	Coronary occlusion	Yes	
797-081	55	*Lung cancer with intracranial metastases	Carotid and vertebral arteriography	Multiple intracranial metastases	Yes	
805-910	64	Olfactory groove meningioma	1. Bilateral carotid arteriography 2. Transfrontal craniotomy 3. Elevation of bone flap, tracheotomy	Cerebral hemorrhage	Yes	
809-507	35	*Cancer of secondary brain	Ventriculogram, left frontal craniotomy	Brainstem compression	No	
741-961	9	*Pinealoma with metastases to central nervous system	Ventriculography	Pinealoma with metastases to central nervous system	Yes	
809-260	64	*Glioblastoma multiforme of right cerebral hemisphere	1. Carotid arteriogram 2. Pneumoencephalogram 3. Right parietal craniotomy	Glioblastoma multiforme	No	
488-082	39	Glioma of brainstem	Posterior fossa craniotomy, tracheostomy	Pneumonia	No	
799-760	64	Paget's disease with platybasia, coronary artery disease	1. Decompression of foramen magnum, laminectomy of atlas 2. Ventricular tap, exploration of wound 3. Tracheotomy	Paget's disease with platybasia, increased intracranial pressure, brain stem compression	Yes	
678-352	78	Benign prostatic hypertrophy, aortic aneurysm	UROLOGY: 9 Transurethral resection of prostate, secondary transurethral resection of prostate			No
809-049	55	Benign prostatic hypertrophy, arteriosclerotic cardiovascular disease, diabetes mellitus	Suprapubic prostatectomy, cystolithotomy	Myocardial infarction	No	

(*Cancer Cases: 11)

(†Emergencies: 2)

TABLE V: OPERATIVE DEATHS, SURGICAL SPECIALTIES (PRIVATE)—Continued

Number	Age	Primary Diagnosis	Operation(s)	Cause(s) of Death	Autopsy
(UROLOGY: 9—Continued)					
800-304	58	*Cancer of prostate	1. Cystoscopy, perineal biopsy of prostate 2. Radical retropubic prostatectomy, bilateral orchiectomy 3. Bilateral nephrostomies 4. Replacement of nephrostomy tube, incision and drainage of wound abscess	Multiple renal abscesses, bilateral chronic pyelonephritis	Yes
790-364	58	*Renal cancer	Right nephrectomy	Shock	No
795-168	64	Left pyelonephritis, carbuncle of left kidney, arteriosclerotic cardiovascular disease, diabetes mellitus, post right nephrectomy	Left nephrolithotomy, nephrostomy	Uremia	Yes
785-029	73	Bilateral hydronephrosis, renal failure, benign prostatic hypertrophy	Bilateral nephrostomy	Renal failure	Yes
726-337	80	*Metastatic cancer of bladder	1. Cystostomy, biopsy of bladder 2. Exploratory laparotomy, node biopsy, perineal exploration 1. Transurethral resection of bladder 2. Radical cystectomy, ureterointestinal transplants 3. Bilateral ureterocutaneous transplants 4. Tracheostomy	Cancer of bladder	Yes
805-093	54	*Cancer of bladder	Left nephrostomy	Bronchopneumonia	Yes
750-874	59	*Recurrent cancer of colon	Left nephrostomy	Carcinomatosis	Yes

(*Cancer Cases: 5)

(†Emergencies: 0)

TABLE V: SUMMARY
OPERATIVE DEATHS, SURGICAL SPECIALTIES (PRIVATE)

Cancer cases in which cancer caused death.....	9	Deaths following elective operations.....	28
Cancer cases with other causes of death.....	7	Deaths following emergency operations.....	2
TOTAL CANCER CASES.....	16	Total OPERATIVE DEATHS.....	30

TABLE VI
NONOPERATIVE DEATHS (PRIVATE)

Number	Age	Primary Diagnosis	Cause(s) of Death	Autopsy
GENERAL SURGERY: 15				
788-204	55	Pulmonary infarct, 18 days post appendectomy	Massive pulmonary infarct	Yes
791-488	20	Congenital heart disease, subacute bacterial endocarditis	Staphylococcal septicemia	Yes
446-377	45	*Metastatic cancer of breast, two months post hypophysectomy, 12 years post radical mastectomy	Metastatic cancer of breast	No
704-322	59	*Cancer of esophagus, malnutrition	Metastatic cancer of esophagus to mediastinum	No
765-313	40	*Metastatic cancer of colon secondary to chronic ulcerative colitis	Metastatic cancer of colon	No
766-911	73	*Cancer of colon, pulmonary emphysema, benign prostatic hypertrophy	Intestinal obstruction due to recurrent cancer of colon	Yes
749-179	51	*Rectal cancer	Rectal cancer	No
32-842	51	*Carcinomatosis secondary to rectal cancer excised 27 months ago, endometriosis, cystic duct stump with calculi, ascites, peripheral edema	Carcinomatosis	Yes
205-474	50	§*Malignant lymphoma of ileum with perforation and generalized peritonitis	Generalized peritonitis	Yes
804-585	74	*Cancer of liver, cirrhosis of liver	Coronary occlusion	No
735-262	58	*Cancer of common bile duct	Carcinomatosis Cancer of pancreas with metastases to liver Cerebral metastasis from renal cancer Carcinomatosis Extensive lymphosarcoma	Medical Examiner
795-302	55	*Cancer of pancreas with metastases to liver		Yes
108-776	56	*Renal cancer with metastases to abdomen and cerebrum		No
399-454	67	*Cancer of right ovary		Yes
643-225	53	*Lymphosarcoma		Yes
SURGICAL SPECIALTIES: 7				
FRACTURE: 1				
797-604	70	Multiple contusions and lacerations, pulmonary emphysema, arteriosclerotic heart disease	Bronchopneumonia	No
(*Cancer Cases: 13) (§Nonoperative Emergencies: 1)				

(*Cancer Cases: 13)

(§Nonoperative Emergencies: 1)

TABLE VI: NONOPERATIVE DEATHS (PRIVATE)—Continued

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Cause(s) of Death</i>	<i>Autopsy</i>
NEUROSURGERY: 2				
788-082	69	Carotid-cavernous fistula, hypertensive cardiovascular disease	Carotid-cavernous fistula with rupture, intracranial hemorrhage	Yes
785-228	49	*Metastatic cancer of breast	Metastatic cancer of breast	Yes
UROLOGY: 4				
794-043	58	Right pyelonephritis, right renal calculus, possible right perinephric abscess	Septicemia	No
805-332	87	Arteriolar nephrosclerosis, benign prostatic hypertrophy, rectal stricture, arteriosclerotic cardiovascular disease	Uremia	No
769-907	63	Metastatic cancer of bladder, post right nephrostomy for ureteral obstruction and uremia	Cancer of bladder	No
806-551	69	*Cancer of prostate with metastases to bladder, acute right pyelonephritis, arteriosclerotic cardiovascular disease	Acute pyelonephritis with septicemia, cerebral vascular accident	No
(*Cancer Cases: 2) (§Nonoperative Emergencies: 0)				
TOTAL PRIVATE DEATHS—1958				
Operative deaths		58	49 (including 1 medical examiner's case)	61.3%
Nonoperative deaths		22	31 (including 3 medical examiner's cases)	
		80		
Cancer cases in which cancer caused death		26	Deaths following operative emergencies	9
Cancer cases with other causes of death		15	Deaths following nonoperative emergencies	1
TOTAL CANCER CASES		41	TOTAL DEATHS FOLLOWING EMERGENCIES . . .	10

TABLE VII
OPERATIVE DEATHS, GENERAL SURGERY (SEMIPRIVATE TEACHING SERVICE)

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation(s)</i>	<i>Cause(s) of Death</i>	<i>Autopsy</i>
DEATHS RELATED TO GASTROINTESTINAL DISEASES: 6					
768-046	64	*Lung cancer, partial small bowel obstruction secondary to metastatic cancer to small bowel	Enteroenterostomy	Carcinomatosis	Yes
795-969	54	*Gastric cancer, intra-abdominal carcinomatosis	Exploratory laparotomy, omental biopsy	Carcinomatosis	No
785-614	76	*Cancer of cecum, Parkinsonism, fracture of left femoral neck	Arthroplasty (insertion of Thompson hip prosthesis)	Carcinomatosis	Yes
809-222	78	*Retroperitoneal sarcoma	Biopsy of retroperitoneal sarcoma	Sarcomatosis	Yes
811-954	63	*Metastatic cancer of breast to colon	Resection of descending colon	Acute myocardial infarction	No
811-542	58	*Bronchogenic cancer, right	1. Bronchoscopy 2. Pneumonectomy	Hemorrhage into right hemithorax	Yes
DEATHS RELATED TO DISEASES OF BILIARY TRACT, LIVER, PANCREAS: 6					
793-883	52	Laennec's cirrhosis of liver, portal hypertension, esophageal varices, massive gastrointestinal hemorrhage	†1. Portacaval shunt 2. Tracheotomy	Bronchopneumonia, uremia	Yes
677-202	40	Laennec's cirrhosis, hepatosplenomegaly, ascites, edema, jaundice	1. Portacaval shunt, liver biopsy, splenectomy 2. Tracheostomy	Hepatorenal failure	Yes

(*Cancer Cases: 6)

(†Emergencies: 1)

TABLE VII: OPERATIVE DEATHS, GENERAL SURGERY (SEMPRIVATE TEACHING SERVICE)—Continued

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation(s)</i>	<i>Cause(s) of Death</i>	<i>Autopsy</i>
(DEATHS RELATED TO DISEASES OF BILIARY TRACT, LIVER, PANCREAS: 6—Continued)					
786-342	43	Cirrhosis of liver, portal hypertension, rectal papillomata	1. Excision of multiple rectal papillomata 2-3-4. Cauterization of polyp base for hemorrhage 5. Excision of polyp base, ligation of superior hemorrhoidal artery and vein, cecostomy 6. Ligation of bleeding points, excision of cecotaneous fistula 7. Portacaval shunt	Hepatorenal failure	Yes
808-178	68	Cirrhosis of liver, bleeding esophageal varices, pulmonary emphysema	†Tracheostomy	Perforation of esophagus, massive left hemothorax	Yes
788-069	65	Chronic lymphatic leukemia	Biopsy of pancreas, liver biopsy, appendectomy, cholecystojejunostomy	Chronic lymphatic leukemia	Yes
804-604	49	Laceration and occlusion of hepatic artery, acute liver necrosis, disruption of common bile duct, partial occlusion of portal vein, necrosis of gallbladder	†Drainage of common bile duct, ligation of hepatic artery, repair of portal vein	Acute liver necrosis	Yes Medical Examiner
421-689	55	Left common iliac aneurysm with rupture	†Resection of left common iliac aneurysm, bifurcation of aorta and right common iliac aneurysm with prosthetic replacement	Bronchopneumonia	Yes

DEATHS RELATED TO CARDIOVASCULAR DISEASES: 4

788-072	42	Rheumatic heart disease with mitral stenosis and auricular fibrillation, cardiac cirrhosis	Mitral valvulotomy	Mitral stenosis	No
794-739	76	Aneurysm of aorta and iliac artery, generalized arteriosclerosis with old myocardial infarct, chronic dermatitis, nephrosclerosis	1. Skin biopsy 2. Resection of abdominal aortic aneurysm and bilateral aneurysm of common and internal iliac arteries	Thrombosis of aortic and iliac graft prosthesis	Yes
796-307	40	Angina pectoris, arteriosclerotic cardiovascular disease, healed myocardial infarct	Ligation of coronary sinus	Staphylococcus pericarditis, Staphylococcus septic thrombus of coronary sinus	Yes

DEATHS RELATED TO MISCELLANEOUS CONDITIONS: 4

799-766	46	*Metastatic cancer of breast to spine, pelvis, femurs	Bilateral adrenalectomy, right oophorectomy, liver biopsy	Metastatic cancer of breast	No
797-226	49	*Cancer of left ovary with carcinomatosis, post left radical mastectomy	Exploratory laparotomy, omental biopsy	Carcinomatosis	No
543-104	15	Idiopathic thrombocytopenia purpura	Incision and drainage of infected hematoma of buttock	Progressive retro- and intraperitoneal hematoma	Yes
811-763	28	Second and third degree burns of face, trunk, extremities. Hemolytic Staphylococcus aureus septicemia and bronchopneumonia. Acute renal insufficiency due to hypotension.	Tracheostomy	Septicemia due to hemolytic Staphylococcus aureus	Yes

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TABLE VIII
NONOPERATIVE DEATHS, GENERAL SURGERY (SEMPRIVATE TEACHING SERVICE)

Number	Age	Primary Diagnosis	Cause(s) of Death	Autopsy
497-917	58	*Gastric cancer, carcinomatosis	Acute myocardial infarction	No
771-470	56	*Cancer of colon	Massive gastrointestinal hemorrhage due to multiple superficial erosions of gastric mucosa	Yes
785-005	65	*Melanocarcinoma of skin of forearm with axillary node involvement, congestive heart failure	Metastatic melanocarcinoma	No
794-334	54	*Cancer of pancreas with metastases to peripancreatic lymph nodes, liver and peritoneum	Cancer of pancreas	Yes

(*Cancer Cases: 4)

(§Nonoperative Emergencies: 0)

TOTAL DEATHS ON SEMPRIVATE TEACHING SERVICE—1958

Operative deaths.....	20	Autopsies.....	17 (including 1 medical examiner's case).....	70.8%
Nonoperative deaths.....	4	No autopsies.....	7	
	24		24	
Cancer cases in which cancer caused death.....	8	Deaths following operative emergencies.....	4	
Cancer cases with other causes of death.....	4	Deaths following nonoperative emergencies.....	0	
TOTAL CANCER CASES.....	12	TOTAL DEATHS FOLLOWING EMERGENCIES....	4	

